PACKAGE engineering

573

How ratings evaluate suppliers

A vendor rating program lets a package user measure supplier performance by six yardsticks: quality, price, cooperation, original ideas, shipment identification, and salesman effectiveness—Page 27

Do your jar labels line up?

Insistence on package uniformity led one company to devise and refine its shortcuts and guides contributing to jar filling, correct labeling, and inspection of all outgoing containers—Page 32

Tests that spare you trouble

Applying preventive testing and control (especially for cellulosic materials) so that the man on the packaging production line gets the results in time to use them in avoiding costly trouble—Page 36

Complete contents—Page 2

JANUARY 1961

VOLUME 6 • NUMBER 1

Chances are 9 out of 10 he'll pick up a Scandia-wrapped "Pocket Pack".

All but two brands of cigar "pocket packs" in this picture are wrapped on Scandia machines.

What does this mean to you? It means that if you have an over-wrapping problem of any kind, Scandia know-how can help you.

Many cigar manufacturers started with us through our Machine Rental Program. This is the practical way to *prove the value of new packages* at low machine cost.

Later as sales of "pocket packs" went up and production loads increased we supplied our cigar accounts with high-speed, fully automatic over-wrapping machines. Like all Scandia-built equipment, these machines are dependable and foolproof.

No matter what your over-wrapping problem is, no matter how complicated, Scandia ingenuity and craftsmanship can lead the way.

Call or write: *Scandia Packaging Machinery Company*, North Arlington, New Jersey. Telephone: Wyman 1-8400.

SCANDIA
MEANS CRAFTSMANSHIP

For more information circle No. 201 on Reader Service Card

Photo courtesy of Gibson Art Company, Cincinnati, Ohio

Shelf life insurance that isn't premium priced

VITAFILM

Problem

Breakage and rewraps were an expensive problem to a large card manufacturer. The film that was supposed to protect the package didn't.

Solution

The Goodyear Packaging Engineer recommended a switch to VITAFILM, Goodyear's tough transparent film that's especially suited for paper products. He worked with the card maker ... converted his existing equipment ... turned out better-looking, stronger, longer-lasting packages. Goodyear technical service people will be glad to help solve your packaging problems. In most cases they can convert your equipment at no ultimate cost to you. For the dollars-and-cents story on VITAFILM, write:

Goodyear, Packaging Films Dept. A6432
Akron 16, Ohio.

GOODYEAR

Vitafilm, a Polyvinyl chloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

PACKAGE engineering

JANUARY 1961 • VOLUME 6 • NUMBER 1 • AN ANGUS J. RAY PUBLICATION

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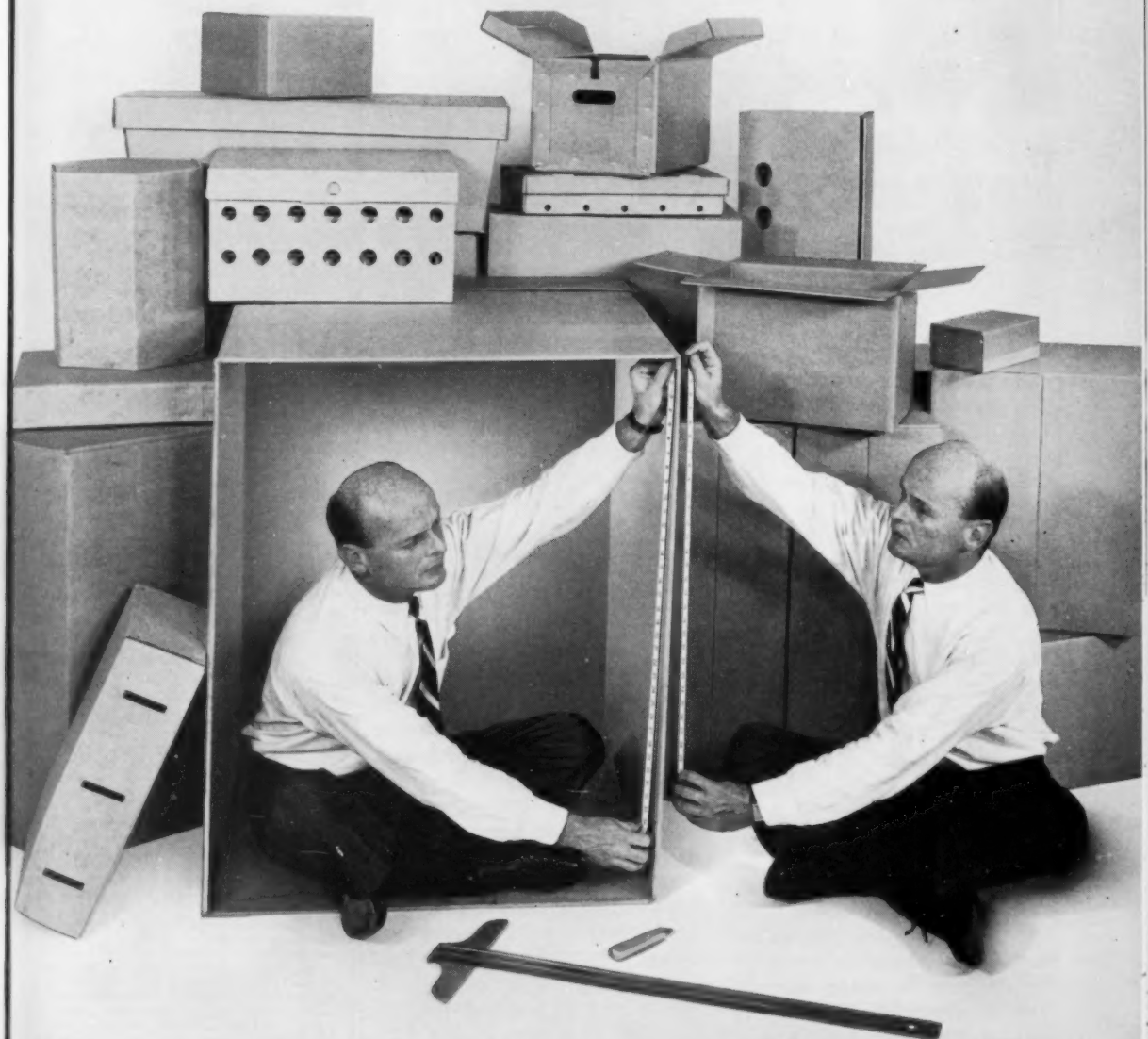
Our December, 1961 issue will carry a cumulative editorial index for the year, listing our feature articles by subject and author.

Package Engineering is indexed in Engineering Index

GAYLORD SOLVES
PACKAGING PROBLEMS INSIDE AND OUT

Your Gaylord Man isn't twins, he just works like it. He knows the "inside" of container manufacture and the "outside" of packaging operations, so he can give you double-duty service.

Got a packaging problem or two? Call the man who solves them by the pair—your nearby Gaylord Man. Today.



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GAYLORD CONTAINER DIVISION

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PLANTS COAST TO COAST

A note from the Publisher

Does packaging need another professional group?

There are now two professional groups in the packaging field. Packaging Institute has a professional membership, as does the Society of Packaging and Handling Engineers.

Now the graduates of the Michigan State University school of packaging are planning to start a third professional association.

The requirements for professional recognition from all three groups is very similar, and the expressed purposes of the three groups seem to be the same.

I have felt for a long time that the professional packaging people who are packaging durable goods, and those who are packaging for retail sale, could profit by belonging to the same professional group. I do not see how the interests of packaging will be served by diluting the field even more with a third group.

Michigan State has done a pioneering job in packaging education and has many able young men in the packaging field. But I think their abilities and energies could best be utilized by building up the field they have selected by working with the Packaging Institute. It would seem reasonable to accept a degree from the school of packaging as qualification for professional membership in Packaging Institute—even if at a reduced rate for the first few years when these men are getting established.

Perhaps the Michigan State graduates, because of their youth, feel they are not able to express themselves through the Packaging Institute. Since age should not be a determining factor in appearing on a panel, PI should encourage these men to attend and take part in regional meetings and the Annual Forum. Undoubtedly it is easier to set up a panel using those who are well known authorities, but in all fairness, and for practical reasons too, a young man who has demonstrated his ability on the job should be given the opportunity of appearing on PI panels.

The Society of Packaging & Handling Engineers is now organized so that various local groups are practically autonomous. It would seem reasonable for the packaging people in this group to come into PI, and have PI sponsor meetings, publicize them in *The Packet*, and award them professional standing.

It also seems reasonable to integrate the school of packaging graduates of MSU into PI and award them professional standing.

Angus J. Ray

Publisher

PACKAGE engineering®

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BPA

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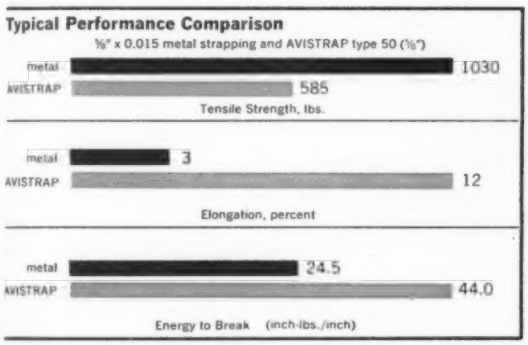
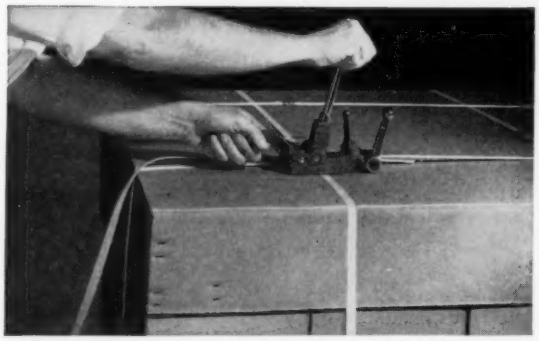
It actually takes more energy to break AVISTRAP cord strapping than to break comparable-width metal strapping. Though metal has greater tensile strength, AVISTRAP—made of high-tenacity Avisco® rayon—has greater "working toughness." Strapping must either extend enough to absorb shock-energy or fail. Metal strap has far less elongation before breaking than AVISTRAP. As a result, AVISTRAP is still stretching, soaking up energy, and holding the package together after a metal strap would have stretched to its breaking point and failed.



Vital statistics. This comparison is the result of careful laboratory tests, using an Instron Tensile Testing Machine. In tests covering metal strapping from ¼" through ¾" width and from 0.012 through 0.023 thickness—AVISTRAP outperformed metal in terms of energy to break in every instance.



Toughness pays off here. AVISTRAP can be tightly tensioned without danger of sudden breaks, will not lash out with jagged ends. Strap breakage during handling and shipping is reduced. Other advantages: no sharp edges, light weight, easy handling, easy unpacking.

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For your calendar

January 22-25. Canning Machinery and Supplies Association 54th Annual Exhibit:
Conrad Hilton Hotel, Chicago, Ill. Contact: W. D. Lewis, Secretary-Treasurer, Canning Machinery & Supplies Association, 4630 Montgomery Ave., Washington 14, D.C. *Telephone: OLiver 6-6979.*

January 23-25. National Canners Association 54th Annual Convention:
Conrad Hilton Hotel, Chicago, Ill. Contact: R. F. Alexander, National Canners Association, 1133 20th St., N.W., Washington 6, D.C. *Telephone: FEderal 8-2030.*

February 9-10. University of Wisconsin Engineering Institute on packaging industrial products:
Wisconsin Center Building, Madison, Wis. Contact: Richard A. McCormick, institute coordinator, department of engineering, University of Wisconsin, Madison, Wis. *Telephone: ALpine 5-3311, Ext. 2815.*

February 13-17. AMA packaging management course:
Hotel Astor, New York, N.Y. Contact: John L. Wood, packaging coordinator, American Management Association, 1515 Broadway, New York 36, N.Y. *Telephone: JUdson 6-8100.*

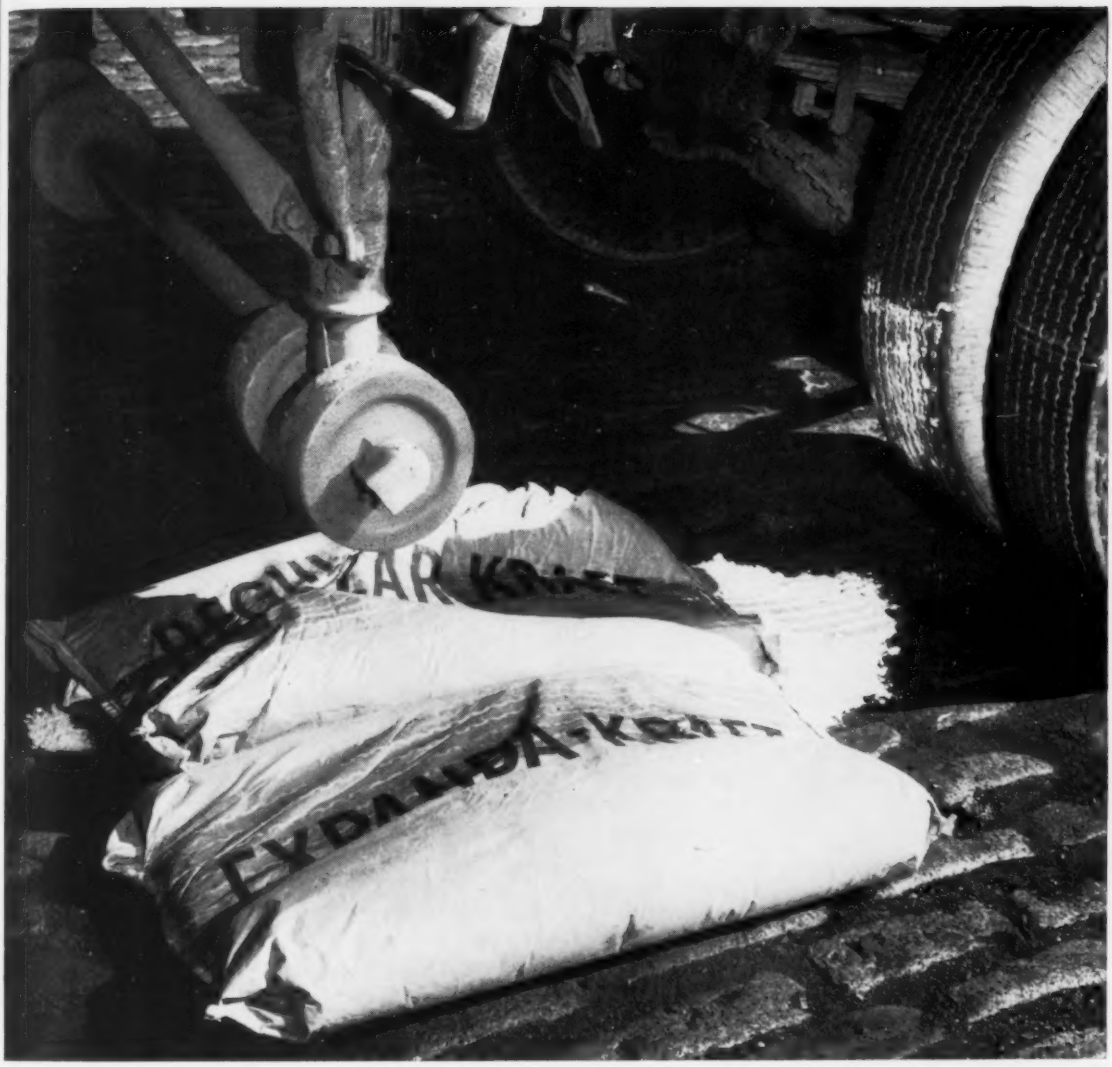
April 4-6. Research and Development Associates 15th Annual Meeting:
Hotel John Marshall, Richmond, Va. Contact: Col. R. A. Isker, secretary, Research and Development Associates, Food and Container Institute, Inc., 1819 W. Pershing Rd., Chicago 9, Ill. *Telephone: LAfayette 3-5500, Ext. 4262 or 4267.*

April 10-12. 30th AMA National Packaging Conference:
McCormick Place (new Lakefront Exposition Center), Chicago, Ill. Contact: John L. Wood, American Management Association, 1515 Broadway, New York 36, N.Y. *Telephone: JUdson 6-8100.*

April 10-13. 30th AMA National Packaging Exposition:
McCormick Place (new Lakefront Exposition Center), Chicago, Ill. Contact: John L. Wood, American Management Association, 1515 Broadway, New York 36, N.Y. *Telephone: JUdson 6-8100.*

October 1-4. Produce Packaging Association 11th Annual Convention and Exposition:
Chase-Park Plaza Hotel, St. Louis, Mo. Contact: Robert L. Carey, executive secretary, Produce Packaging Association, P. O. Box 29, Newark, Del. *Telephone: ENdicott 8-2906.*

November 7-10. Packaging Machinery Manufacturers Institute Show of 1961:
Cobo Hall, Detroit, Mich. Contact: W. L. Redding, Hanson & Shea, Inc., One Gateway Center, Pittsburgh 22, Pa. *Telephone: ATlantic 1-8552.*



One bag broke . . . the other has two-way stretch

The one with stretch is made of H&W's new, high-strength Expanda Kraft.®

A large tractor-trailer ran over both bags of equal weight and plies. The regular kraft bag burst under pressure—see the tell-tale flour on the inside tire tread. But look at Expanda Kraft —*not a sign of breakage!*

Expanda Kraft is stronger, because it's made by a special roll-crepe process. It's resilient, has two-way stretch, and soaks up shock. And Expanda Kraft is available in white, semi-bleached and natural.

Expanda Kraft comes in 40, 50, 60, 70, 80 and 100-pound basis weights. *For samples and information*, write Hollingsworth & Whitney, Division of Scott Paper Company, Chester, Pa.

HOLLINGSWORTH & WHITNEY DIVISION OF
SCOTT PAPER COMPANY

The PULSE / of packaging

Trends to watch:

Something new for milk packaging: half-pt. containers of high impact polystyrene, soon to be followed by other standard sizes—ALBERT MOJONNIER, INC., manufacturer of these containers, says they are formed in two pieces by a variation of the vacuum method of thermoforming; asserts their cost is now the same as wax-coated paper containers, but thinks they will be cheaper in two years or so because of rising costs for competitive containers. Aside from use for milk, we hear others are trying it for orange juice; and at least one company, we understand, is testing it with a powdered product.

We hear the inspiration for MARATHON's new "flip and dip" top-opening carton for ice cream came from its previous experience with flip-top cigarette packages. Costing about $50 per thousand, these cartons of 0.022-in. wax-coated both side stock will probably be limited to half-gal. sizes. Pulling the top flap tears the cut scores, thus permitting use of lid. Glued ends dictate using just the top as package opening.

OSCAR MAYER & CO. says it spent more than five years developing a new technique for vacuum packing and sealing meat products using a new film, Super Saran. Mayer engineers say the success of the new package rests with the pliability of this film—it conforms readily to the product shape and clings so tightly it displaces air at the moment the vacuum is drawn.

CONTINENTAL CAN CO.'s W. K. Neuman recently told an Institute of Food Technologists meeting in Florida that aluminum has now arrived as a practical material for three-piece can manufacture where non-soldered side seams are involved—such as for citrus concentrate. He thinks the hazard of denting aluminum bodies is slight, feels the trend to lighter gauges of metals will continue.

Meanwhile, observers report a bright outlook for paperboard. THE ECONOMETRIC INSTITUTE INC. predicts that 1961's paperboard production will run 6 to 9 per cent above that of 1960.

According to SALES MANAGEMENT, a National Family Opinion Inc. survey shows that packaging developments currently most appealing to homemakers include plastic packaging (polyethylene bottles, film, etc.), more use of pouring spouts, more use of zip-perforated tab-pull openings, foil inner- or outerwraps, and more screw twist-off lids, among others. The reporting housewives overwhelmingly noted that information about caloric or vitamin content on food labels, directions for storing and refreezing of frozen items, and standard sizes for cans and packages (for easier storing) were "good ideas."

Packaging across the seas:

Reports from Japan indicate more use of plastic film. We hear that rubber hydrochloride and polyvinylidene-chloride are "competing with each other" for the packaging of ham, fish, sausage, and other meat. For several months, Japan has had a Packaging Technique Centre in its Hyogo Prefectural Industrial Research Station. The Japanese packagers are introducing to "every public laboratory" (health research station, railroad technique institute, for instance) to the technical problems and viewpoints of packaging.

If H.R.H. Princess Margrethe opens the second DANISH FOOD FAIR at Aalborg, Denmark in June (which is under her patronage), she will see packaged foods ranging from cheese, frozen and fresh salads, meat products, frozen TV dinners, coffee cakes, and T-bone steaks. We are told Denmark is now the second largest producer of frozen foods in the world.

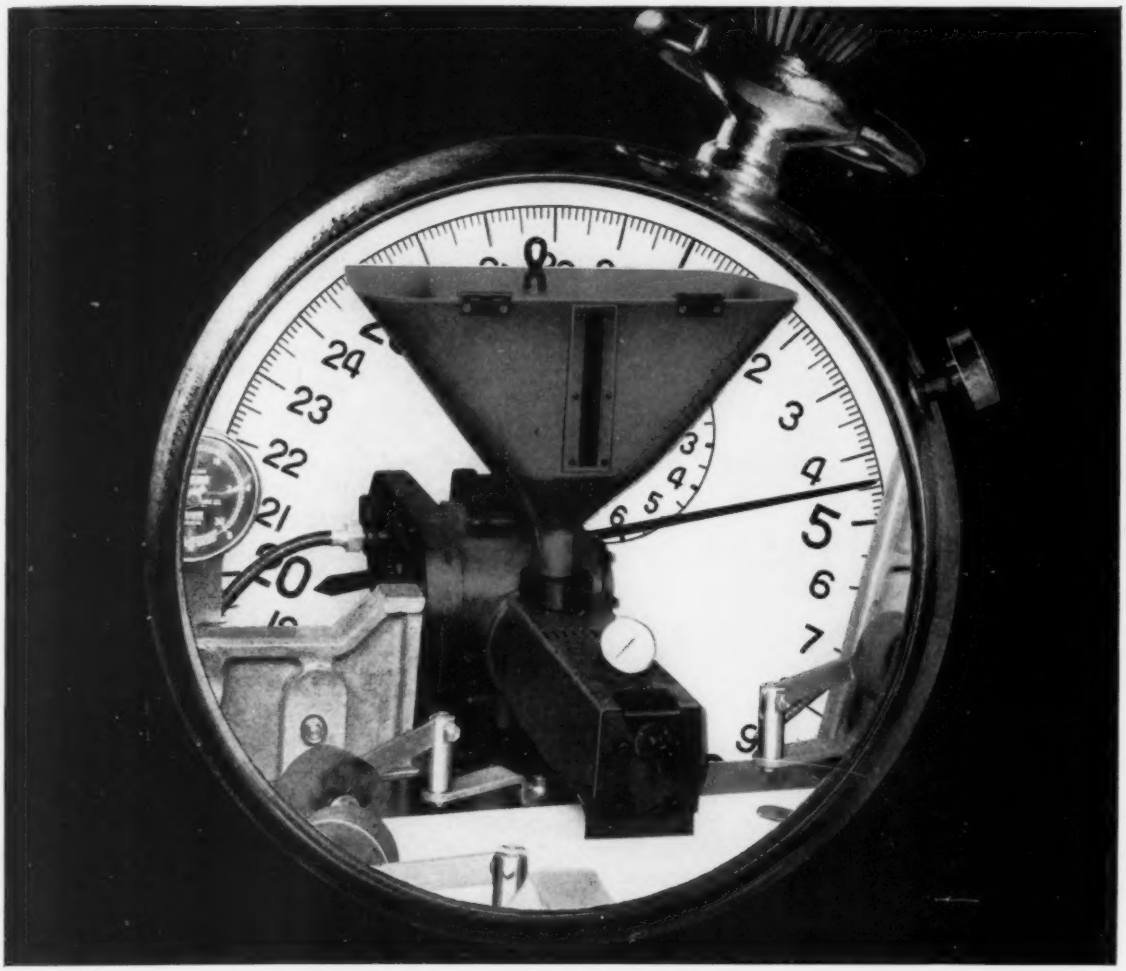
Portugal is now establishing an institute for packaging and is holding the first PORTUGUESE PACKAGING SHOW in Lisbon in March. It has been organized by the government to improve packages for domestic and foreign consumption and will feature a Packaging Congress with lectures by "most well-known" European packaging engineers. We understand this is the first time a European government has decided to undertake such a promotional effort to improve packaging. The institute it is in the process of creating will join the European Packaging Federation.

Meanwhile, the EPF's technical and research committee is continuing its study of standardizing laboratory equipment and test methods. Its "marking for shipping" committee is striving to bring about unification of marking symbols, for example, for dangerous and nondangerous goods.

The overseas chemical division of W. R. GRACE & CO. has opened a new plant (to make container sealing compound) at Santa Clara, Mex., a Mexico City suburb. . . . DOW CORNING CORP. says its exhibit of silicones at the eighth Tunis International Fair proved quite intriguing to Tunisian president Habib Bourguiba; kept him at that booth longer than he planned. Some 80 American companies exhibited there. *(Turn page)*

INSTANT-LOK

GRANULAR HOT MELT SYSTEM



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You name it! Polyethylene, wax paper, foil, wet strength kraft, Saran—National's INSTANT-LOK SYSTEM bonds them all, *instantly*.

The INSTANT-LOK SYSTEM consists of granular, 100% solids resin adhesive melted and extruded through the applicator pictured above. A thin, instant bonding glue line results. Instant-Lok applicators are available exclusively through National.

The INSTANT-LOK SYSTEM offers the lowest cost form of adhesive. No water. No preparation. A range of formulations give high bonding strength, heat and oil resistance, and other desirable properties.

The INSTANT-LOK SYSTEM is suggested for bag seaming, carton sealing and forming, tube winding, and other converting operations. It can be adapted to machines you are now using or specified on new machines. Write or call your nearest National office for full details.

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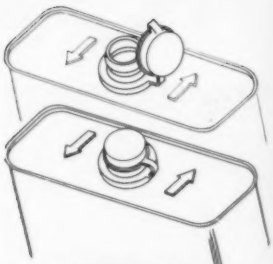
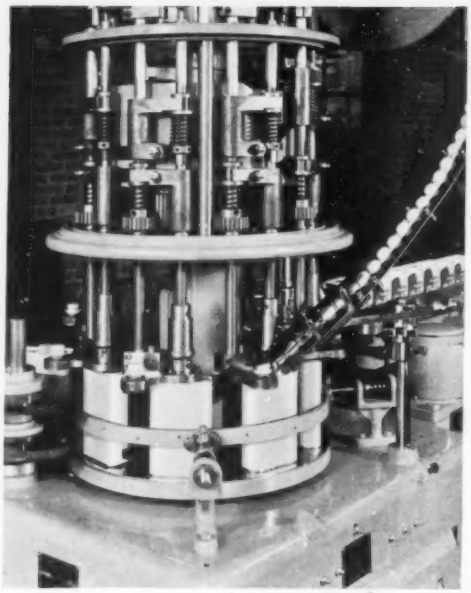
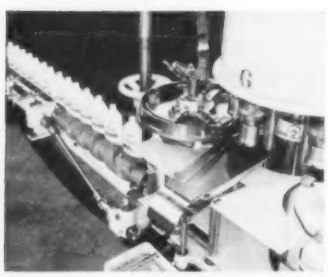




HERE'S BEST WAY TO APPLY THE NEW PLASTIC "FLIP CAPS"

Plastic "Flip Caps" give the new 1961 look to both "F" and "I" type cans. Consolidated has perfected the dependable, fully automatic method for applying these new plastic closures which replace the soldered screw-neck nozzles which have been in use for over 25 years.

The new D8-FS Consolidated Capper is available in models with 2 to 8 spindles and with capacities from 40 to 250 containers per minute. The plastic fitments with *captive plastic caps* are fed from a hopper and inserted by straight down pressure rather than rotary screw motion previously used on metal screw caps. Caps are oriented with hinge strap parallel to length of can. Cost-consuming soldering is eliminated by the neckless can — your packages are up-dated for increased consumer appeal. Consumers prefer this type cap because of convenience of handling. Both quart and pint sizes can be handled with equal ease.



Consolidated D6-F Capper in use at S. C. Johnson & Co. applying plastic screw-type closures with captive caps to plastic containers. The new design, adjustable tension grips hold plastic containers firmly without collapsing them. Capacity 120 containers per minute.

For complete information about this most modern equipment for applying these most modern caps, write today.

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A Subsidiary of International Paper Company

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Groups in the news:

Latest reports from SOCIETY OF PACKAGING & HANDLING ENGINEERS indicate it plans a national packaging competition, short course, and show for the fall of 1961. The group has named J. L. Krager, Jr., Radio Corp. of America, Camden, N.J., chairman of its 1961 competition committee.

More expansion for packaging:

In order to "strengthen our diversification program," BEMIS BRO. BAG CO. has acquired a substantial interest in THE SYSTEMATION CORP., a St. Louis area firm specializing in the development of integrated and automated packaging systems and machinery. . . . WESTERN PETROCHEMICAL CORP.'s WARWICK WAX DIV. is now producing a white, high melting microcrystalline wax. The new product is the result of the recent expansion and modernization program at the company's Chanute, Kan. refinery.

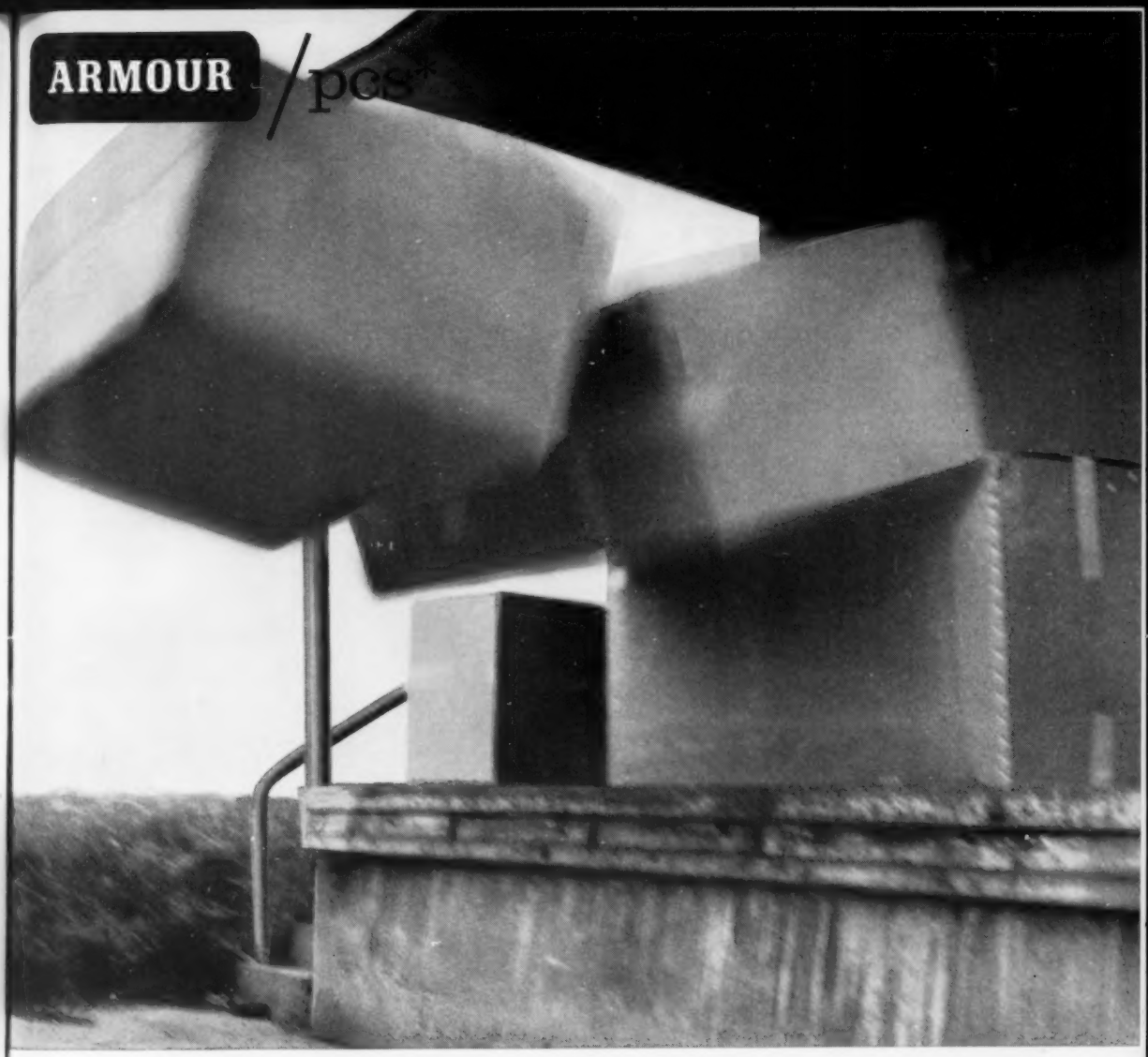
VANANT CO., INC., Milwaukee, Wis., is now in its new plant and office building. . . . NOPCO CHEMICAL CO. is building a polyether urethane foam plant in Chattanooga. The 70,000-sq.-ft. plant, with a design capacity of 4 million lb./yr., is scheduled for operation by March 30.

An expansion program (main feature: rebuilding two glass furnaces to increase capacity 40 per cent for each) is under way at ARMSTRONG CORK CO.'s Millville, N.J. plant. . . . FOAM-FLEX CORP. has granted a license to URETHANE SYSTEMS ENGINEERING INC. to make machinery to produce in continuous form rigid urethane foam sandwich panels and flexible cushioning materials.

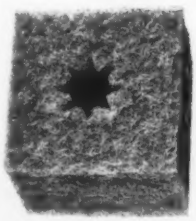
IMPERIAL ADHESIVES, INC.'s new adhesive and chemical plant in Cincinnati is producing latex and solvent compounds. . . . RAP-IN-WAX CO. has acquired WESTERN FOIL CONVERTERS, Berkeley, Calif.

A 9,000-sq.-ft. plant to house re-

ARMOUR /pcs*



*protective cushioning service shows you how to cut in-transit damage



Special Hairflex packs can be fabricated to pillow your product.

Shock. Vibration. Shielding your valuable product against these damaging forces is a job for Armour/pcs. Working with Hairflex—Armour's rubberized curled hair cushioning—expert package engineers carefully calculate your product's cushioning requirement for maximum protection at minimum cost, weight and volume. Then, Armour, with the industry's most modern high speed production facilities, fabricates Hairflex cushioning for you in sheets, laminated packs, die-cuts or molded to the exact profile of your product. You can start reducing in-transit damage by taking advantage of this comprehensive technical service. For your free copy of our brochure describing Hairflex for packaging applications, write to: Cushioning Products Division, 16123 Armour Street, N.E., Alliance, Ohio, or 2001 Saybrook Avenue, Los Angeles, California.

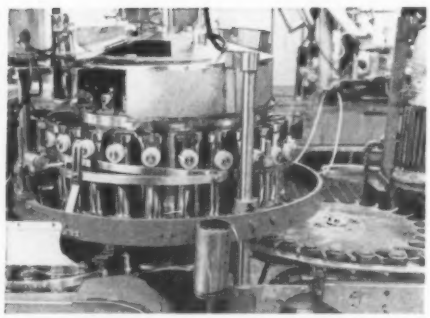
CUSHIONING PRODUCTS DIVISION
ARMOUR ALLIANCE INDUSTRIES

For more information circle No. 209 on Reader Service Card

Votator®
PISTON FILLER'S

NEW MAGNETIC M
VALVE CO

The Magnetic Monitor* Valve Control† on VOTATOR piston fillers consists of a combination of indestructible permanent magnets and the pneumatic lift for positioning the valves. This assembly, with only two moving sections, provides:



Courtesy Gerber Products Co.

New, higher standards of packaging economy are being realized by processors of a wide variety of products. VOTATOR Piston Fillers give close-tolerance filling of liquids and viscous materials at remarkable speeds. No-container, no-fill controls safeguard against interruption of operation and waste. And, new Magnetic Monitor valve control prevents costly damage and downtime.

Courtesy Castrol Oils, Inc.

a. Positive no-container, no-fill operation.

b. The elimination of every possibility of a valve jam due to over-sized particles in the product or the malfunction of any associated equipment.

c. A completely smooth valve action to eliminate all splashing of product.

VOTATOR PISTON AND GRAVITY FILLERS ARE AVAILABLE FOR ALL PRACTICAL SPEEDS AND CONTAINER SIZES

Another VOTATOR Piston Filler *first* bringing you still more advantages and savings. Write today for Bulletins PED-259 and PED-260.

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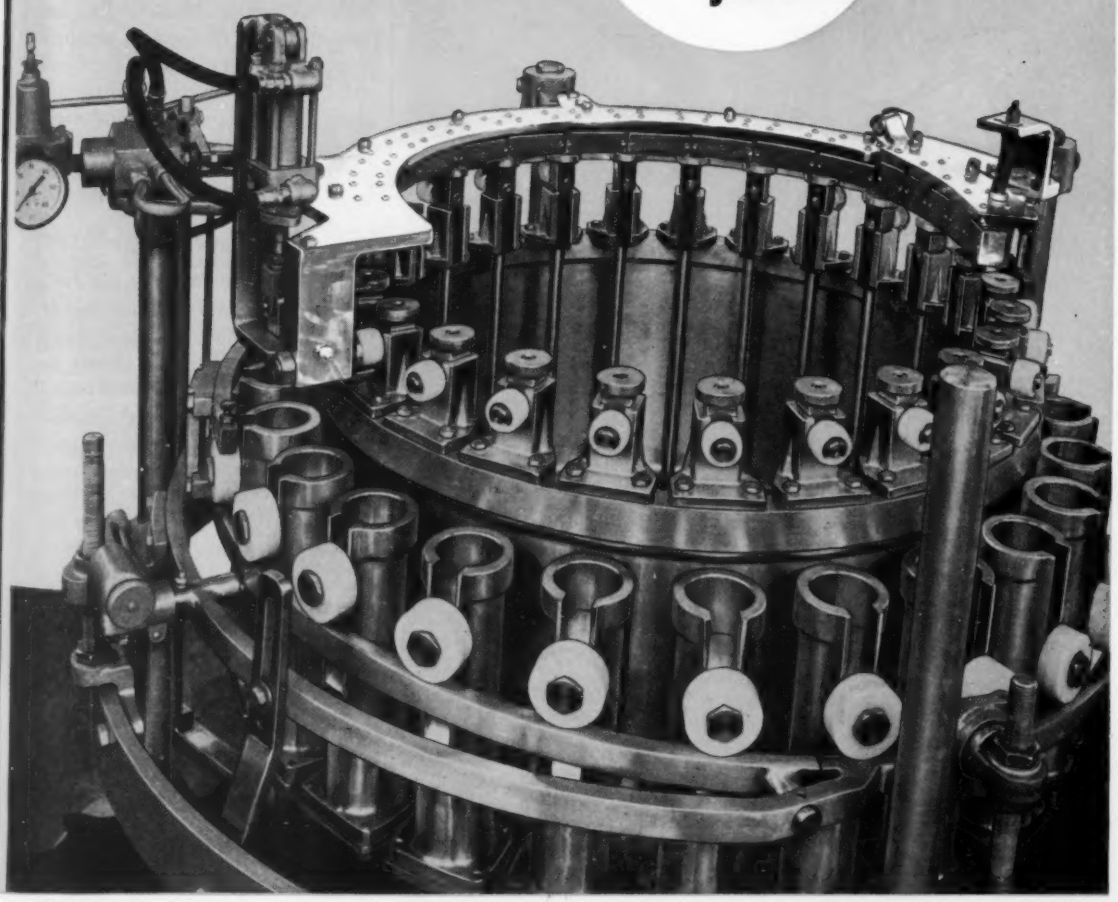
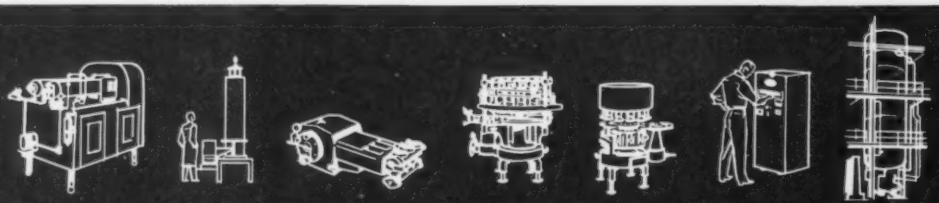
MONITOR . . .

CONTROL

stops valve jams



*Trademark †Patent pending



VOTATOR CONTINUOUS PROCESSING EQUIPMENT FOR CHEMICAL & FOOD INDUSTRIES • VOTATOR PISTON & GRAVITY FILLERS • VOTATOR PLANTS FOR FATTY OILS INDUSTRY • THERMEX DIELECTRIC HEATING EQUIPMENT

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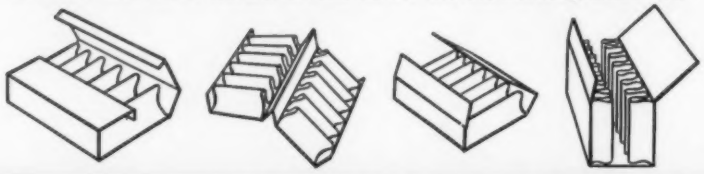
"the pack with the built-in shock absorber"

Holds and protects inserted items by the spring-clip action of its fluted partitions. The restricted opening ① and the spaces between ② and beneath ③ are the basic elements of this package that assures safe conveyance and efficient handling. Applications available for many articles of various industries in the medical, cosmetic, electronic, tool, art supply and other fields. Generally for cylindrical or other simple profiles from ⅜" to 1¼" in diameter. A Paper Product, Sold at Paper Prices.

SOME OF THE MANY RONDO STYLES TO FIT INDIVIDUAL REQUIREMENTS



RONDO process and designs patented in all major countries. Write for information.

RONDO OF AMERICA, INC.
100P SANFORD STREET, HAMDEN 14, CONN.

search laboratories and offices for GENERAL ATRONICS is now open in West Conshohocken, Pa. . . . RARITAN PLASTICS CORP. has purchased property in Oakland, N.J. for a manufacturing plant.

To centralize all its corporate research activities, TEE-PAK, INC. is adding a 10,000-sq.-ft. research and development center to its Danville, Ill. plant. . . . GENERAL BOX CO., Des Plaines, Ill., has formed a new division to produce polystyrene foam plastic. . . . In order to demonstrate its ultrasonic metal-joining equipment and techniques, SONOBOND CORP. is building a sales-demonstration headquarters in West Chester, Pa.

What people are doing:

JOSEPH V. VERMILLION is now vice president, manufacturing for The Gerson Stewart Corp. He was formerly with Harris Intertype Corp. . . . GEORGE J. LAURENT has been named executive vice president of General Atronics Corp. Mr. Laurent, who figured in Atronic's founding, has also served as a vice president and secretary-treasurer. . . . CHARLES R. SHAFFER, who has been with American Viscose Corp. for ten years in various sales positions, is now its Chicago district sales manager.

Owens-Illinois Glass Co.'s packaging research division is being divided into two customer packaging services departments. One, at the Toledo division, will be headed by C. P. WHITTIER; the other, at San Francisco, by H. T. GRISWOLD. . . . JOSEPH SCHONBERG is now manufacturing manager of Tri-Wall Containers, Inc. Previously, Mr. Schonberg was general manager of Chippewa Paper Products Co.'s Eastern division.

RICHARD E. CARLSON, formerly a management consultant with McKinsey Co., Inc., has joined Avery Adhesive Products, Inc. as assistant to the president. . . . THOMAS H. McCONNELL, JR. is now president of Packaging Materials Corp. He was formerly with

The Importance of Logic in Packaging Machine Design.

The most successful packaging machine is the most simple in concept. Unnecessary complexity invariably taxes itself in speed, performance, efficiency and maintenance.

Triangle originally entered the bag making, filling and sealing field to develop a single tube machine. No other consideration was allowed to complicate the basic requirements. That's why Triangle's single tube machine has been so unusually successful.

What could be a more logical starting place for developing a multi-tube bag maker, filler and sealer . . . ?

NOW TRIANGLE MORE THAN DOUBLES THE ADVANTAGE OF ITS REMARKABLE BAG MAKER, FILLER AND SEALER!

Regardless of whose equipment you're using or whether you're presently considering equipment purchase, you owe it to yourself to investigate the new Triangle Twin machine. The reason? It has all of the advantages, all of the flexibility, all of the efficiency our single tube equipment has without any of the disadvantages common to all other dual tube machines.

Briefly, Here's Why . . .

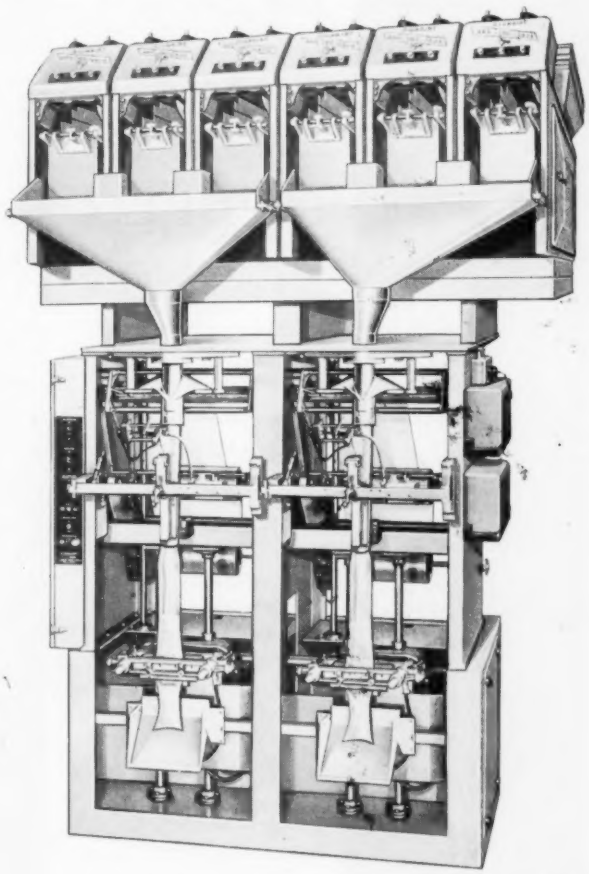
The Triangle Twin is fast . . . 120 bags per minute with any bag material (90 per minute with polyethylene). It will handle a full range of bag sizes up to 8″ x 16″, (also available 11″ x 12½″).

The Triangle Twin is a fully integrated combination of two, efficient single tube machines with one common drive . . . yet sealing jaws operate independently to permit one side to operate while the other side is down for film threading or routine maintenance. This feature results in *less* downtime and more production than normally expected.

The Triangle Twin mounts up to *six* Elec-Tri-Pak net weighing scales on top where they belong. No costly intermediate elevator feed is required. Volumetric filler and other synchronized systems are also available.

The Triangle Twin has all the performance of the time proven single tube bag maker and filler . . . fast, simple changeover for all materials from cellophane to polyethylene . . . quick return jaw assembly . . . simple, functional design of sealing jaws. . .

See for yourself how far the Triangle Twin has advanced the concept of high speed bag making, filling and sealing. Write today—without obligation, of course.



. . . . . YOU REALLY SINCE 1923 SAVE WITH . . . . . .

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TRIANGLE PACKAGE MACHINERY COMPANY

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COMPLETED

IN OHIO AND NEW JERSEY

2 NEW AVERY LABEL PLANTS

TO GIVE YOU BETTER SERVICE, FASTER DELIVERY, LOCAL PRICING

Each is fully equipped to give you the important quality factor that no other label supplier offers: complete manufacturing control, from compounding just the right adhesive to delivery of your pressure-sensitive labels. Now Avery has plants across the nation, plus 44 factory service offices, to bring you the finest in service and quality.

Manufacturing Plants...
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NEW BRUNSWICK, NEW JERSEY
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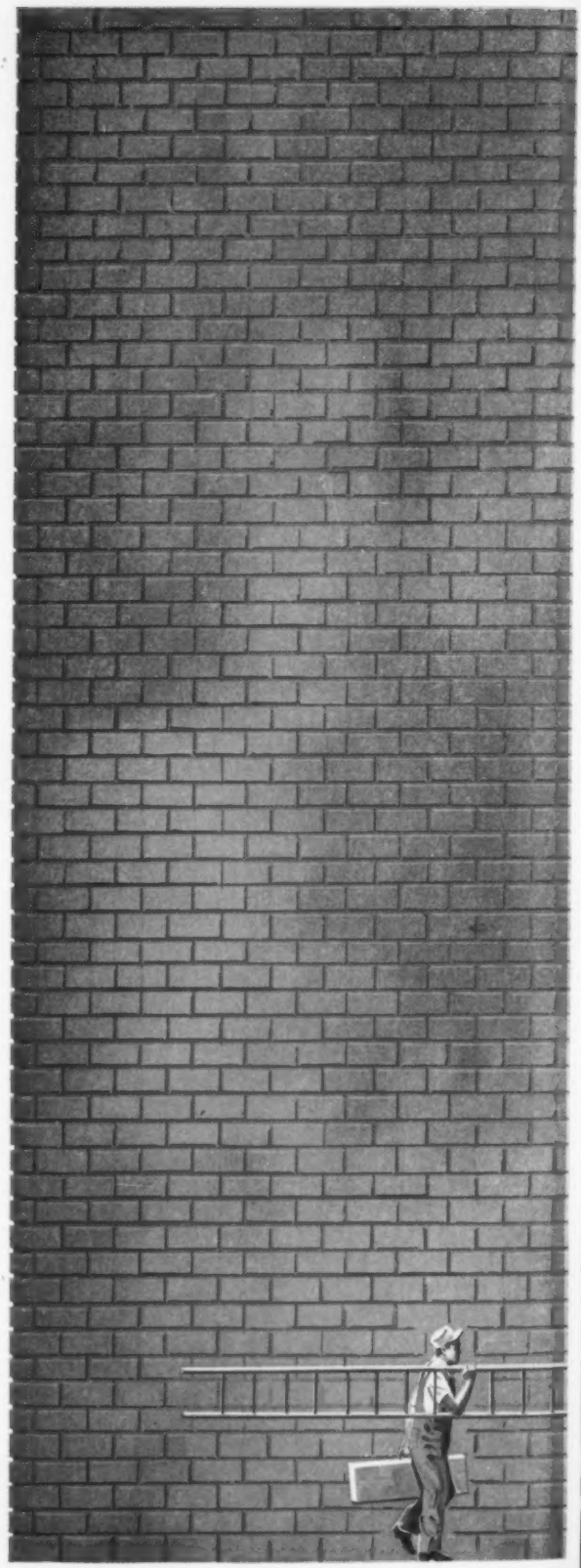
AVERY
pressure-sensitive
LABELS



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Striking! Daring! Different!
Dobeckmun is geared to give
your gift package the distinction
that today's competition demands.
The big difference — the imaginative
use of the widest range
of packaging materials
available from any one source!

packages for performance

DOBECKMUN

Why not go to the people who really know packaging? Take today's flexible gift packaging for spirits—its easy removal adds to customer convenience while automatically creating post-season inventory savings. The look and feel of quality is the eye-catching contribution of Trycite®. Other striking and unique effects come from Dobeckmun's Metalam®—a colorful aluminum foil laminated to films or papers. Superior printing and lamination are equally vital in creating the package that is distinctly yours. Whichever materials you select, Dobeckmun always adds the most decisive ingredient of all—creative originality. THE DOBECKMUN COMPANY, a Division of The Dow Chemical Company, Cleveland 1, Ohio • Berkeley 10, California • Offices in most principal cities.

Haartz-Mason, Inc. and Vulcan Rubber Products Co. . . . Peco Corp. has transferred JOHN BOLLINGER from California to Palatine, Ill. to act as its Midwest engineer.

WILLIAM J. ERBECK, who joined Union Carbide in 1951, is named office manager of the Chicago district of Union Carbide Plastics Co. . . . Western-Waxide Div. of Crown Zellerbach Corp. has appointed CHARLES S. IMIG product manager for bakery plastic sales. Mr. Imig formerly headed his own firm, National Plastic Films. . . . JOHN J. LUVIANO, who has been with Crown Cork & Seal Co., Inc. for eight years in various manufacturing and sales positions, has been elected vice president-machinery division.

New president of Central States Paper and Bag Co. is ELMER D. ABRAMSON, formerly executive vice president. . . . CHARLES W. SIMONS has joined the Dewey and Almy Chemical Div., W. R. Grace & Co., as senior chemist in the closure sealing compound laboratory. . . . JOHN A. OAKES is now general sales manager, paperboard division, central region, of Packaging Corp. of America.

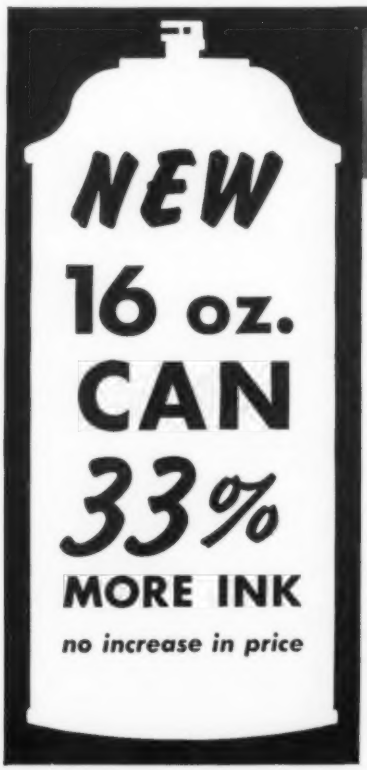
RUSSELL K. CANFIELD, who has been a sales representative of The Dobeckmun Co. in the New York area since 1957, is now its New York district sales office manager. . . . New eastern sales representative for Darling & Co.'s glue division is R. E. KIMBALL.

GEORGE LOEFFLER, formerly development engineer for G. D. Searle, Inc., has joined the Thomas Engineering Co., Skokie, Ill., as director of engineering. . . . Hardigg Industries has appointed G. BLAKE SABINE as sales manager in charge of package cushioning and test equipment.

JOHN GIDDENS, former sales representative at Los Angeles for Crown Zellerbach Corp.'s Western-Waxide packaging division, is now regional sales manager for the firm's eastern area in New York. . . . New plant engineer of Armstrong Cork Co.'s glass container plant in Dunkirk, Ind., is BENJAMIN F. BASTIAN. Mr. Bastian was formerly project engineer at Armstrong's central engineering department.

Management changes at Dumont Inc. are: DENNIS E. SPYDELL, plant manager, is now vice president; KENNETH B. DUNNING, secretary-treasurer, is now a director; RICHARD C. RANSOM, sales manager, has assumed over-all marketing responsibilities. . . . ALEX R. O'BRIANT has joined Brockway Glass Co. as manager of its foods division.

Sales appointments at Metal Edge Industries are: WILLIAM C. CARSON, district manager of Northern New Jersey and WARREN E. SLUSSER, district manager of Western Pennsylvania-Ohio. . . . LINDSEY M. HOBBS is now manager of central research at Lord Manufacturing Co. Formerly Mr. Hobbs was assistant director of chemical research at Air Reduction Co., Inc. *(End)*



Proven Best for Stenciling Corrugated Cartons, Boxes, and All Other Shipping Containers.

Fast, Easy Stenciling on Steel, Wood, Paper, Fiber, Plastic, Stone, Glass and other Surfaces.

FAST • EASY • CLEAN
STENCILING
with REYNOLDS
Instant Dry STENCIL INKS

• Unsurpassed for stenciling corrugated cartons, metal, paper, concrete, or other surfaces. Easy to hold aerosol container sprays a dense, compact cone of specially formulated waterproof ink. Very opaque. Dries instantly. 9 colors.

Get full details about Reynolds Stencil Inks; Stencil-Kover and other Specialty Products.

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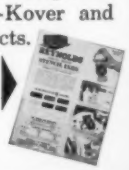

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2078 East 65th Street • Cleveland 3, Ohio

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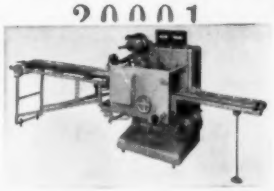
If your daily packaging includes at least 20000 overwraps

20001



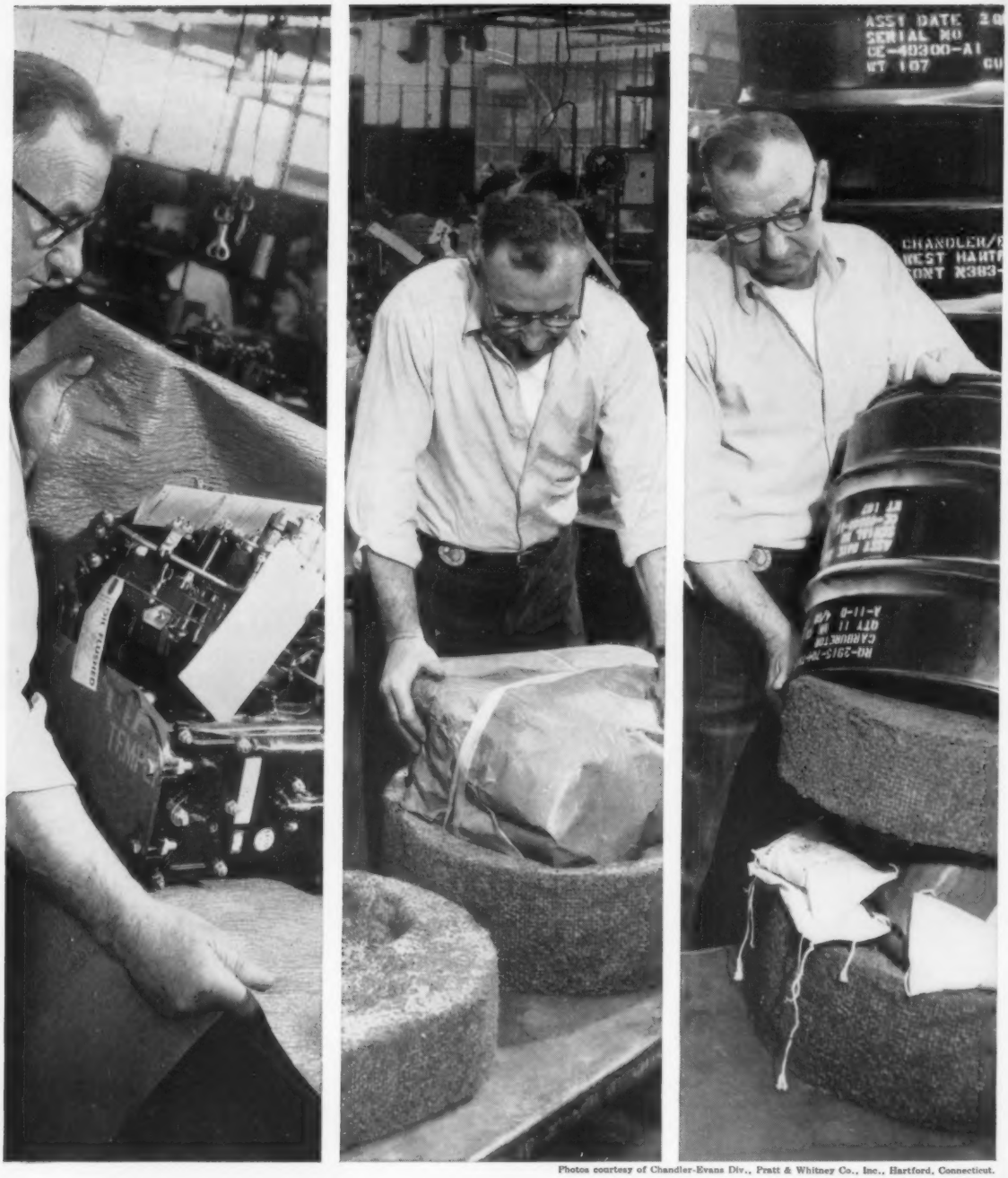
...Battle Creek Machines can probably wrap them better, faster,

more economically than any other

Hard-to-package solid articles or loose objects on bottom cards are eye-appealingly pouch wrapped in heat sealable or cohesive papers at 15 to 80 per minute speeds by the quickly adjustable Model 151 Flexopaker. Its chain type intake is admirable for use where automation is desired, and the machine's flexibility permits short runs requiring quick changeover or longer runs requiring high production. Within a range limit of 27" x 15" x 1" and 2" x 2" x ⅛", Baked Goods; Automotive and Electrical Parts; Textile, Medicinal, Paper and Toiletry products are creatively packaged. Write for details today!

Continuous Flow® PACKAGING

BATTLE CREEK *packaging machines, inc.*, BATTLE CREEK, MICH.



Photos courtesy of Chandler-Evans Div., Pratt & Whitney Co., Inc., Hartford, Connecticut.

When you care enough to send the very best way

. . . use B.F.Goodrich Package Cushioning. Write for our data-packed booklet which explains how to select and design package cushioning to reduce damage from shock, vibration. Send request on your company letterhead. The B. F. Goodrich Company, 188 Derby Place, Shelton, Connecticut.

B.F.Goodrich

PACKAGE CUSHIONING BY

Fo more information circle No. 215 on Reader Service Card

Want more profit from your Packaging Operations?

. . . without replacing present equipment, or building a new plant, or even hiring more people!

Check your adhesive. That's where some profit opportunity lies. Because the adhesive is one of the controls that govern your rate of production. And production is profit. Obviously, the more production you can get from your present packaging setup, the more profit you will earn.

Therefore, the speed, machine-ability and tack of your adhesive are vital. Your adhesive must do much more than just "adhere".

Swift's new high speed resin adhesives have stronger tack with better machine-ability. And what's more, they have higher strength and greater resistance to moisture as well! Swift's 23 adhesives plants produce a complete line of packaging adhesives for the most specific applications—prompt, courteous, *and* authoritative service throughout the United States and Canada.

Be sure your packaging adhesive *is* helping your profit. Call your Swift Adhesive Specialist for all your adhesives. Or write for additional details to Swift & Company, Adhesive Products Department, Chicago 9, Illinois.

A-53R

To Serve Your Industry Better

WITH THESE ADHESIVE PRODUCTS

RESINS AND RUBBERS IN EMULSION OR SOLVENT
DRY, LIQUID AND FLEXIBLE ANIMAL GLUES •
LIQUID DEXTRIN ADHESIVES

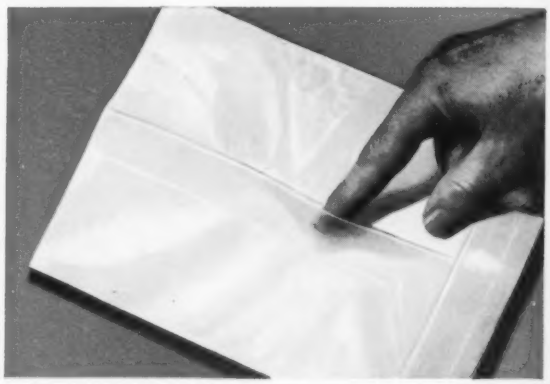
Swift

105TH YEAR

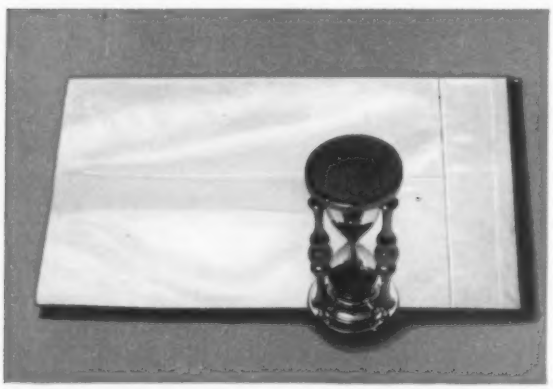
4 COMMON PROBLEMS IN MAKING WAXED GLASSINE BAGS

(and how the Arabol man helps you solve them)

1. THE BAG IS ODORIFEROUS—All right, it *smells*. An unpleasant situation, especially when the bag is used for packaging foods. If the adhesive is at fault, it's because the solvent is evaporating too slowly, leaving a residual odor. The solution? A fast-penetrating, quick-evaporating solvent system. The Arabol man will see that you get it.



2. THE ADHESIVE WON'T STICK—This may be due to an abnormally heavy coating of wax on the bag. Or a coating that has been modified for greater protection. The Arabol man may investigate: (1) How you're applying heat; (2) Ditto the adhesive; (3) Whether the wetting properties of the adhesive need improving; or (4) Whether you should switch to a suction type adhesive.



3. THE ADHESIVE IS SLOW DRYING—What happens when drying time is lengthened? Deliveries fall behind and customers become impatient. The problem can usually be traced to solvents or plasticizers that evaporate too slowly. Possibly, the use of a suction type adhesive is indicated. But why guess? The Arabol man is at your service. Call on him.

4. THE ADHESIVE "FILMS" TOO FAST—This can play havoc with your production. Lumps form on the roller, causing breaks in the paper roll. Or they may even be deposited on the glassine surface. Controlling bag quality becomes difficult and time and production losses mount. A *slow*-filming adhesive could pull you out. See the Arabol man.

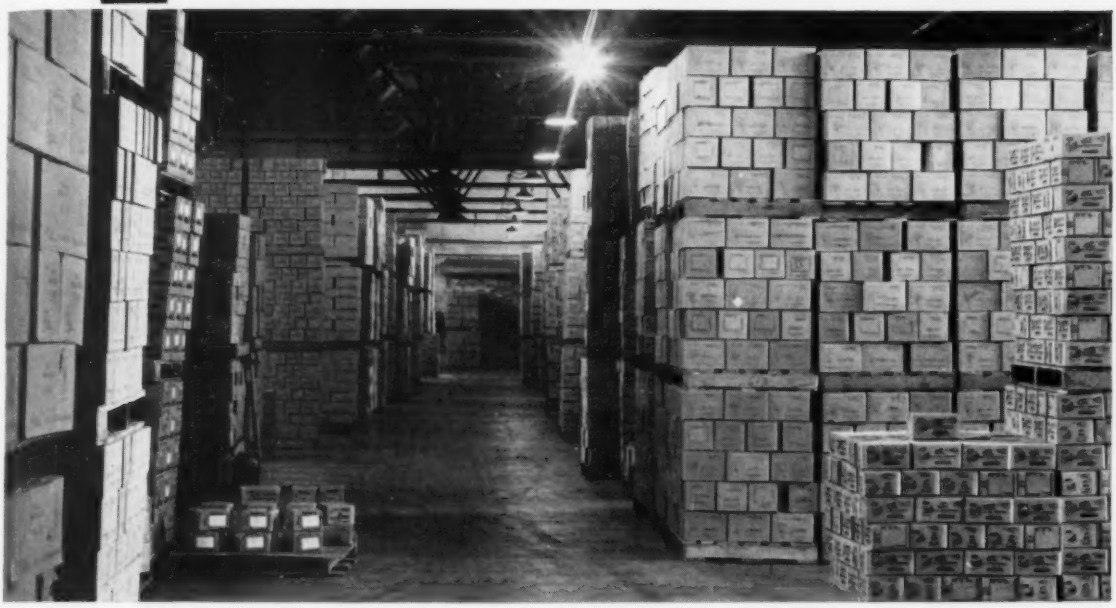
THE BEST WAY to solve adhesive problems is to prevent them from happening. You can begin by telling us *all* the conditions your adhesive must meet—in your plant, in transit and after it reaches your customer. To help you understand these conditions more fully, we have prepared an interesting booklet that can save you no end of aggravation—and money. It's called "HOW TO BUY ADHESIVES—23 BASIC YARDSTICKS." Send for it today.

ARABOL ADHESIVES

14 PLANTS AND WAREHOUSES TO SERVE YOU ON A LOCAL BASIS

THE ARABOL MFG. CO., 110 EAST 42ND STREET, NEW YORK 17, N. Y. • CHICAGO • SAN FRANCISCO
LOS ANGELES • ST. LOUIS • ATLANTA • PHILADELPHIA • BOSTON • PORTLAND, ORE. • ITASCA AND
McALLEN, TEX. • CINCINNATI • DENVER • TAMPA • LONDON, ENG.

Two cartons . . . or ten thousand:



It's time you too cut shipment marking costs the high-speed, simple Weber way

"TOUCH STENCILING"

No more stencilboards! No more brush or roller! No repeat preparation of individual labels! Using the lightweight Weber Handprinter, one man "touch stencils" 60 cartons a minute, legibly, no mistakes. Key to this cost-cutting procedure is the simple, thrifty Weber stencil, which can be made up in seconds in shipping room or office. Lasts for 3,000 impressions or more. Is discarded when job is done. No filing, no storage problems!

A cosmetics manufacturer speeds shipment of 10,000 cartons a day with the help of Weber handprinters. A dinnerware manufacturer, with multiple orders ranging from two to 2,300 cartons, has streamlined his complex addressing problem with the Weber "Touch-Stenciling" direct-to-carton label system.

An electrical manufacturer marks 20,000 different items faster, more efficiently by typing Weber stencils simultaneously with orders, for use with a Weber Label Printing Machine.

Manufacturers of all kinds are improving their profit-structure by reducing multiple marking costs with an integrated Weber system. Thirty percent, forty percent savings in time are common, with corresponding savings in work, confusion and money. Mail the coupon!

THE VERSATILE WEBER STENCIL:

Can be typed or handwritten with stylus or ball-point pen

Can be prepared together with regular office paper work

Prints facsimile-labels direct to carton

Prints labels on the spot as needed, with Weber Label Printing Machine

Weber

MARKING SYSTEMS

Sales and Service in all principal cities

WEBER MARKING SYSTEMS, INC.
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Send me your new bulletin on
"49 MARKING JOBS DONE FASTER, EASIER"

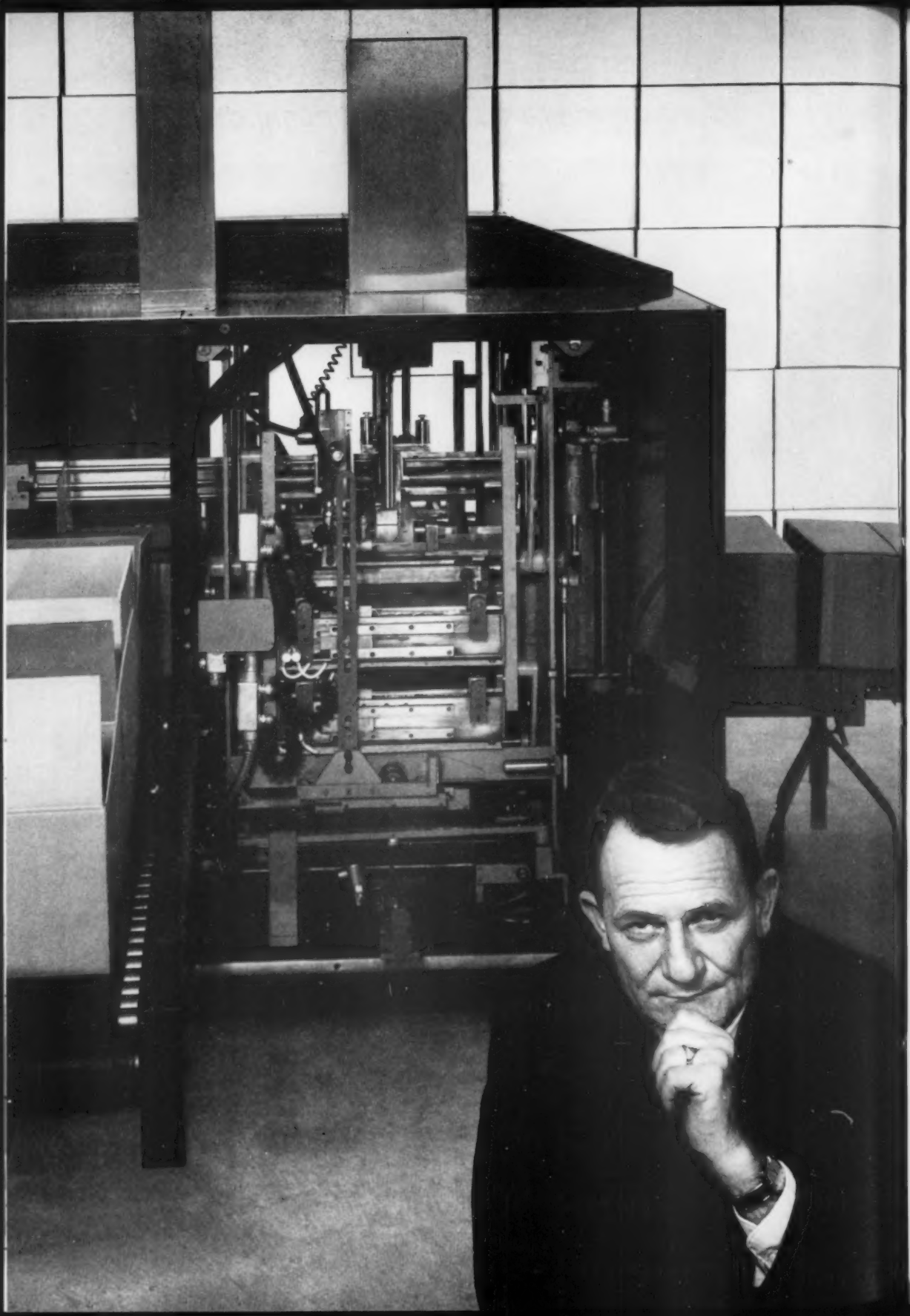
Company_____

Individual_____

Position_____

Address_____

City_____ Zone_____ State_____



Meet our mechanical man

Bill Jacobi has been fighting packaging inefficiency since the days of string tying.

Some day he hopes to win. Many claim he already has. Particularly users of Union-Camp shipping containers.

It's easy to understand why. As a result of putting some of his automation ideas to work, these companies have saved thousands of dollars in reduced handling and labor costs. To say nothing of increased production rates.

According to Bill, who's Director of our Package Engineering Department, packaging costs are like an iceberg. Only the top portion—or surface costs—can be seen. This is represented by the packaging materials.

It's the hidden costs that cause the trouble. These sizable expenses take the form of filling, handling, weighing, maintenance, labor, closing, warehousing and product damage. And it takes an expert to analyze them and make recommendations that will keep them to a minimum.

This is precisely the type of service Bill and his team of specialists provide. Their studies cover inventory control. Plant layout. Filling and handling techniques and equipment. Manpower expense. Adaptability of containers to palletizing as well as to present (and anticipated) traffic flow. In fact, anything that contributes ultimately to reducing the unit-packaging-cost of the product—whether it's applesauce or appliances.

As Bill puts it, "In today's profit-squeeze economy, one of the only avenues left for achieving significant savings is through more streamlined packaging and handling of the manufactured product. It's an avenue well worth exploring."

If you agree, he'll be glad to explore it with you. There's no obligation. Just drop us a note on your letterhead.

UNION-CAMP®

CORRUGATED BOXES

Union Bag-Camp Paper Corporation · 233 Broadway N.Y. 7, N.Y.

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COMP

Du Pont's new 2in1 polyethylene gives you clarity and toughness in a single film

This is it! The polyethylene film specifically designed for bag packaging that gives you both clarity and toughness . . . Du Pont's exclusive new 2-in-1 polyethylene film.

Compare it with the clearest polyethylene bag films you can buy today. You'll find it's just as clear. Compare it with the tough polyethylene bag films. You'll find that only the hazy, high-impact polyethylene films are as rugged.

Where can you get it? Du Pont 2-in-1 polyethylene film is now available in printed roll stock and bags through Du Pont Authorized Converters . . . or plain roll stock from you Du Pont Representative. Call an Authorize Converter or Du Pont Representative for a the facts on this latest advance from Du Pon . . . leader in packaging film for 35 years. Du Pon Company, Film Dept., Wilmington 98, Del.

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Better Things for Better Living
...through Chemistry

DU PONT polyethylene film

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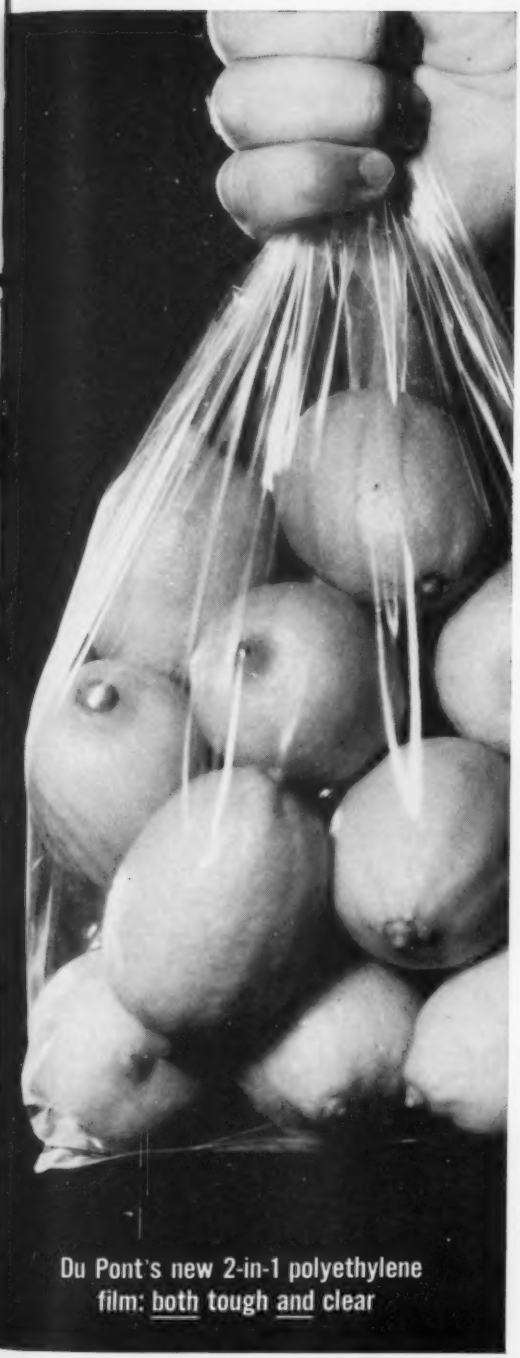
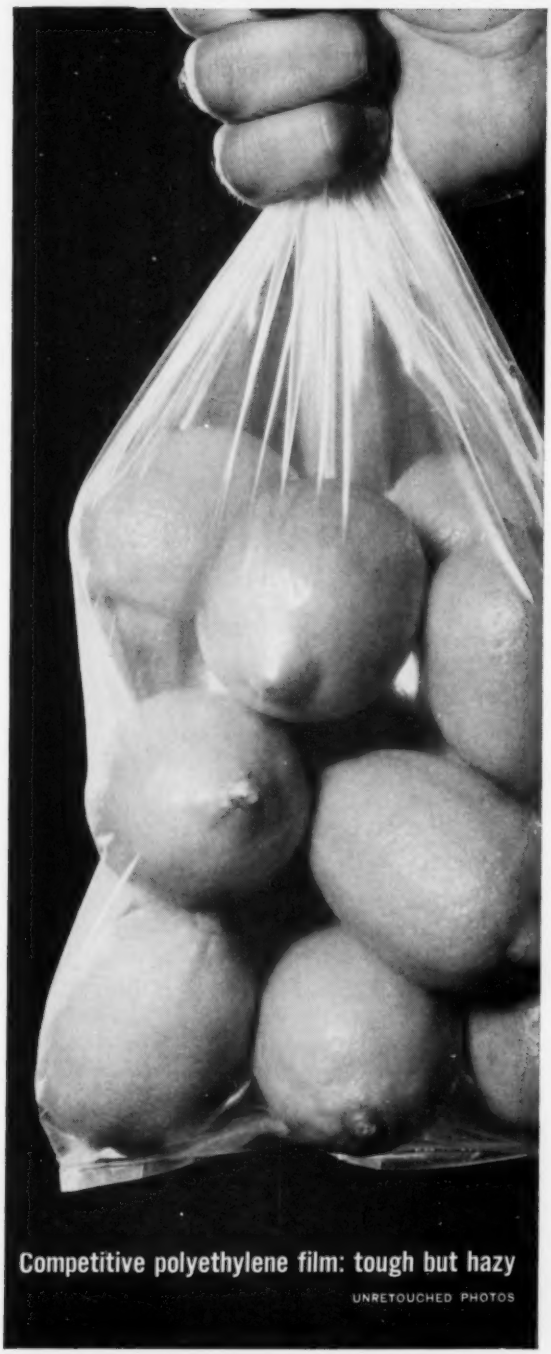


Du Pont's new 2-in-1 polyethylene film: both tough and clear



Competitive polyethylene film: tough but hazy

UNRETOUCHED PHOTOS

Millions of breakfasts in corrugated

America's big morning appetite is a bull market for breakfast food. Producers supply this demand with a harvest of crispness, a multitude of different cereal brands. Why are so many of these family favorites shipped in boxes by Hinde & Dauch Division? Because buyers know they can depend on Hinde & Dauch for money-saving *corrugated containers in volume.*

West Virginia Pulp and Paper

Hinde & Dauch Division

17 Plants • 42 Sales Offices • Sandusky, Ohio

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Rating supplier performance

Six yardsticks:
Quality
Price
Cooperation
Ideas
Identification
Salesman

By Clyde R. Erskine, Jr.,
Package Developer,
Smith, Kline and French Laboratories,
Philadelphia

A good rating system benefits supplier and user

By comparing quality history, price quotations, and delivery information on each supplier, the user can select, without bias, the best all-around suppliers, thereby cutting its costs.

The supplier who consistently delivers top quality goods which meet user specifications, ultimately decreases its costs by increased volume.

The purchasing department of any company constantly faces this question: "Which supplier will provide my company with materials at a competitive price, and still meet all specifications?" The answer to this can come through building and maintaining *formal records* which include a past history of each supplier and the materials purchased from it. These records may then act as guides for a purchasing department in rating its company's various suppliers.

Too often, a buyer approaches the business of selecting vendors in an arbitrary manner. Some buyers, using a reference list of suppliers, have requested estimates on fragmentary information and awarded the contract to the lowest bidder. Some buyers deal only with one supplier and, while the quality of the supplier's material is good, the buyer is not allowing himself the advantages in price and service offered by competition.

Use Analytical Approach

In today's economy, we cannot leave the important business of vendor selection to any haphazard process. Management must be aggressive and inquisitive. It must know how to develop and use the tools of cost control without reducing its ability to meet all the needs of a manufacturing function. Vendors must be selected on an analytical basis, for in so doing, a brake is applied to the continually rising costs of doing business.

A company should maintain a good vendor relations program with its suppliers. It will help: (1) to secure improved quality of incoming materials as a result of better understanding and closer relationships with suppliers during development and specification phases; (2) to reduce costs by reducing lost time and inadequate inventory levels through improved liaison with vendors; (3) by the use of statistical sampling plans and procedures which are explained to, and understood by, suppliers, to reduce overall the cost of inspection.

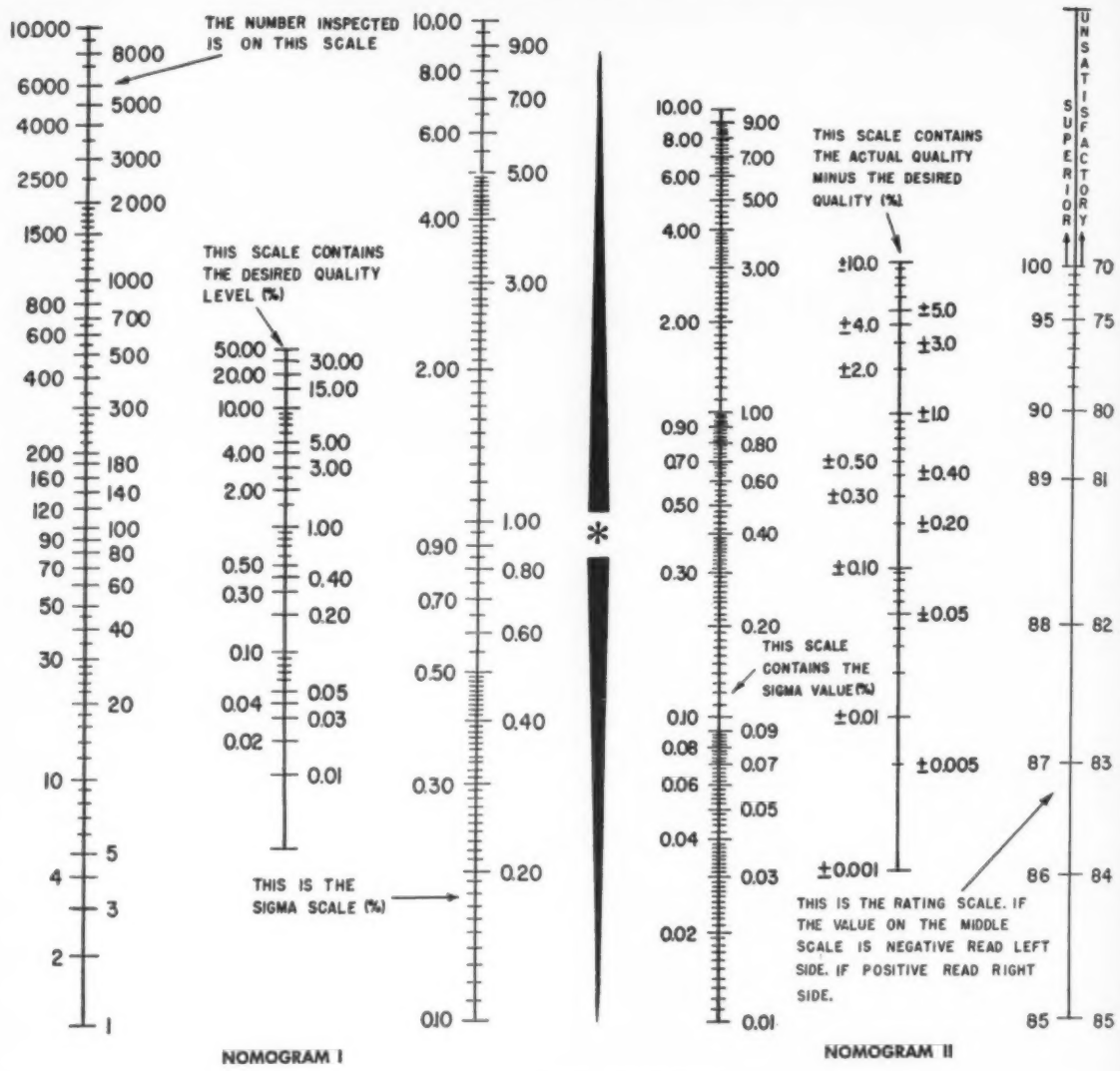
Need For A System

A survey made of the majority of the better-known pharmaceutical manufacturers in the United States showed that some of them have an evaluation program and rely on it; others have a program, but don't use it; and still others have no formal system of evaluation.

Illustrating many approaches to the purchasing of materials, the survey revealed that:

1. The larger a company is, and the higher the cost of packaging materials, the more reliance it places on a vendor evaluation program of some form.
2. All reporting companies had formal inspection plans for inspecting incoming materials. Of these companies, 70 per cent based their sampling procedures on statistical principles.
3. Quality, price, and service were ranked in this order as to their importance in selecting a vendor. *(Turn page)*

CONTROL LIMIT AND QUALITY INDICATOR*


THE NUMBER INSPECTED IS ON THIS SCALE
THIS SCALE CONTAINS THE DESIRED QUALITY LEVEL (%)
THIS IS THE SIGMA SCALE (%)
NOMOGRAM I
THIS SCALE CONTAINS THE ACTUAL QUALITY MINUS THE DESIRED QUALITY (%)
THIS SCALE CONTAINS THE SIGMA VALUE (%)
THIS IS THE RATING SCALE. IF THE VALUE ON THE MIDDLE SCALE IS NEGATIVE READ LEFT SIDE. IF POSITIVE READ RIGHT SIDE.
SUPERIOR
UNSATISFACTORY
NOMOGRAM II

HOW TO USE THE INDICATOR

FOR 3 SIGMA CONTROL LIMITS

Lay a straight edge on Nomogram I so that it crosses the number of units you have inspected and the quality level (standard) you have specified. Multiply the obtained value on the sigma scale by 3. Add and subtract this result from the standard. This gives 3 sigma control limits.

EXAMPLE: Acceptable quality level = 2.5%; number inspected = 500. Control limits = 2.5% ± 2.1%; thus, UCL = 4.6%, LCL = 0.4%.

For greater accuracy: Control limits = Std. $\pm \frac{3\sqrt{\text{Std. } (100 - \text{Std.})}}{\sqrt{\text{No. inspected.}}}$

FOR RATING QUALITY

Determine sigma value by laying straight edge so that it crosses the number of units inspected and the standard on Nomogram I. On Nomogram II, lay straight edge across the sigma value and the actual quality minus the desired quality. The result on the rating line is the numerical rating (based on a 70 to 100 scale with 85 the rating for standard quality). The numerical rating may be converted to an adverb rating as follows: 100 and above = excellent; 90 to 95 = good; 85 to 90 = satisfactory +; 80 to 85 = satisfactory —; 76 to 80 = fair; 70 to 75 = poor; below 70 = unsatisfactory.

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1 QUALITY INDICATOR FOR RATING VENDOR consists of two nomograms based on binomial. Charts are applicable only when per cent defective is measure of quality. Note: Mr. Erskine uses these nomograms for quality determination, and uses "Rating Quality" instructions (at right) only; however, he has altered "adverb rating" slightly (see table on Page 31.)

4. Most companies offered no opinion on the mathematical point system for evaluating suppliers. This indicated that some education in the advantages of such a system is necessary. The most apparent advantage of putting the selection of vendors on an analytical basis is that a buyer always knows exactly what he is buying in terms of quality, price, and service.

Packaging in the pharmaceutical industry comprises a great percentage of the cost of marketing its products. The demand for high quality which the industry requires necessitates close relationships with the suppliers, clear and detailed specifications, sound inspection procedures (based on statistics) for incoming packaging materials, and a complete, up-to-date, operative vendor evaluation program.

Results Of A System

With such large quantities of different materials involved in the packaging operation, many problems appear in the purchasing and quality control functions. The first discussion between a supplier and a manufacturer on a packaging project is the time to forge a chain of understanding and coordination.

The application of a rating system does not imply that suppliers cannot, or will not, furnish products of top quality on their own initiative. A solid, well-founded system will, however, accomplish several things to the benefit of both the supplier and the manufacturer:

1. By maintaining comparative data, the user is able to select, *without bias*, a source from which to purchase. Information will be developed on quality history in addition to price quotations and delivery information.
2. A vendor evaluation system should result in a cost savings, not only to the purchaser, but also to the supplier who, through its own investments in manufacturing and equipment, is interested in delivering only quality material.
3. Such a system helps to insure top-quality products at reduced costs. Costs decrease when a manufacturer purchases from sources that consistently deliver material which, by meeting specifications and quality requirements, may be stocked for immediate use when necessary.

Where Rating Begins

The basis for any accurate vendor rating plan begins with the thorough inspection of all incoming packaging materials. A modern quality control system brings about waste reduction, cost savings, and quality level improvement. When specifications are written, the capabilities of the supplier's machinery and equipment deserve consideration. When materials are purchased, there should be knowledge and mutual agreement between the supplier and user as to: (1) the types of defects and their classifications, and (2) what the acceptable quality level (AQL) will be.

As material is purchased, received, inspected, and used, a clear image begins to form as to how conscious a supplier may be of quality. Statistical sampling and inspection of incoming packaging materials gives an actual picture of the exact type of material which is being accepted and used.

Gradually, comparisons between various suppliers become possible. And, with up-to-date records, opinions may be accurately formed. As

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PACKAGING MATERIAL INSPECTION REPORT

QUALITY CONTROL DEPARTMENT

Material Description _____ Stock No. _____ Supplier ___ P.O.No.___

Receiving Date _____ Quantity _____ Inspector _____

Acceptance Sampling Tests

Characteristics inspected (according to specification) _____

_____

Total Tested	Major Defects	Minor Defects
Sample 1		
Sample 2		
Sample 3		

Accepted ☐ Rejected ☐

Vendor Quality Rating (refer to nomogram) ☐

Remarks _____

_____

_____

copy to Quality Control

copy to Purchasing Department

copy to Packaging Department

2 INSPECTOR MAY USE this suggested form for recording vendor rating. Purchasing, upon receiving completed form, refers to table (see Page 31) to convert rating to points.

VENDOR RATING TABLE

PACKAGING MATERIALS

		1	2	3	4	5	6	DATE (MONTH, YEAR)
VENDOR NAME	ITEM (STOCK NUMBER)	QUALITY 1-30 QUALITY CONTROL	PRICE 1-20 BUYER	SERVICE 1-20 BUYER	ORIGINAL IDEAS 1-10 BUYER & PKG. DEV.	IDENTIFICATION OF SHIPMENTS 1-10 BUYER – RECEIVING	VENDORS REPRESENTATIVE 1-10 BUYER	TOTAL

3 PURCHASING KEEPS RECORD like this up-to-date on each vendor, and may refer to it when determining which supplier deserves next order.

occasions arise for new or duplicate orders, by consulting the records of past performance of appropriate suppliers, the purchasing department can determine the supplier with the highest rating and, therefore, with whom to place the order.

To insure better quality and, in turn, reduce inspection efforts, companies should cooperate to the fullest with reliable vendors. Information about the user's methods and techniques should be freely exchanged with suppliers so that the vendors will be aware of, and be able to understand, any special quality considerations.

Six Yardsticks

Most companies would benefit from having accurate, realistic yardsticks for measuring a given supplier's performance. Once this performance has been measured, a *selective vendor system* may become a reality.

Such a system enables purchasing agents to selectively choose vendors based on *objective* evidence gained from prior transactions and comparative data available.

As a result of the survey, we can rank six major considerations of a supplier's performance in order of their importance, as follows:

1. Quality.
2. Price.
3. Cooperation.
4. Original ideas.
5. Identification of shipments.
6. Salesman (personality).

An evaluation system should be *flexible* and *scientific*, leaving little to chance. "Flexible" means a system applicable to the suppliers of many different kinds of packaging materials. With any one group or category of suppliers of a particular item, comparisons can be made. "Scientific" refers to an orderly procedure based on mathematics—one which is easy to maintain and keep up-to-date.

Purchasing's Role

The responsibility of a vendor evaluation program lies with purchasing because it is the most logical department for maintaining records on each vendor. The buyer who actually negotiates with a supplier is in the best position to judge fairly a given supplier's characteristics or attributes. He is also in the best position to handle rejected shipments because he knows the details of the purchase quality specifications at the time the order is placed. Also, a vendor will more than likely respect the buyer's opinions and wishes than those of a third party, as he is in the best position psychologically to handle all direct negotiations with suppliers.

Information on incoming inspection and in-use tests should go to the purchasing department for every shipment received. This will enable purchasing to record the evaluation on quality and to this, add its own evaluations pertaining to the "six yardsticks" noted above.

Some suppliers may have a greater opportunity for being evaluated because they make more shipments. This should be to their advantage if they maintain quality consistently; however, this also would work against them if quality is poor, is below an acceptable limit, or fluctuates.

Every shipment from any *one* vendor should be evaluated for its degree of quality. The other five rating considerations should be checked through on a periodic basis —weekly if the number of vendors is small, monthly if larger.

The different items, including quality, may be rated on a point plan. The greater the number of points received by a vendor in any one category, the greater the vendor's excellence in that area. A reliable vendor will most likely maintain some balance in all the factors being considered.

Companies will differ on the number of points to award any one of the six characteristics, because of the value it places on a particular category. *Quality* should be, in every instance, the foremost item and be given the greatest percentage of points in any evaluation. In the plan given here, we have assigned 30 points to quality.

1. QUALITY

As a shipment is received from a vendor and is inspected according to one of several types of sampling methods, the inspector in charge makes the decision to accept or reject it. This decision is based on the

quality of the materials, and acceptance will be given if the quality deviations are below the number of defects allowed by the written specifications.

The packaging inspector, now having accepted or rejected a shipment based on previously designated AQL, must report his findings to the purchasing department, in addition to the quality control and packaging departments. Stating only the per cent defective in a shipment or merely checking "accepted" or "rejected" is not a very realistic way of reporting quality for the purpose of obtaining and indicating a rating. The inspector's report is far more meaningful if it furnishes the purchasing department with a statistical quality control rating directly.

Rated Inspection

A quality rating for inspected materials may be obtained directly from the nomograms in Fig. 1. The charts are based upon the binomial, and are applicable only when per cent defective is a measure of quality. Three things must be known:

1. Number of items inspected.
2. Desired quality level (expressed as per cent AQL).
3. Actual quality level (expressed as per cent defective).

Here is an example of a typical problem and how to determine the rating:

1. Assume specifications state that 2 per cent is the AQL for a particular item.
2. The inspector, during his inspection, finds that only 1.5 per cent of the 800 cases inspected are defective. This means that the quality is acceptable. The inspector must then notify purchasing of the vendor's quality rating for this shipment.
3. Using Nomogram I, the inspector lays a straight edge across the 800 (number of items inspected) on the left scale and at 2 per cent (desired quality) on the middle scale. The intersecting point on the right scale, 0.53, is the sigma value.
4. On Nomogram II, he lays a straight edge on the sigma value of 0.53 on the left scale and across the middle scale at the point –0.5, obtained by subtracting 2.0 per cent (desired quality) from 1.5 per cent (actual quality).
5. The result on the rating scale is slightly below 90.

The inspector then records a vendor rating of 90 on his inspection report form, a copy of which goes to purchasing. Fig. 2 illustrates a form which may be used for this purpose.

Convert Rating To Points

Purchasing, upon receipt of this form, refers to the table below to convert the inspection rating of 90 to a point system:

Rating Scale Number	Evaluation Points* (max.)
91-100 (excellent)	30
81-90 (good)	20
71-80 (poor but usable)	10
61-70 (rejected)	–10

*Rating of 90 equals 20 points, 91 equals 21 points, and so on.

These quality points are totaled with other evaluation points on the vendor's other characteristics and result in a complete vendor evaluation report.

Purchasing records these evaluation points along with the designation of the materials received, date of shipment, and purchase order number. This now provides a system for directly converting a quality level into quality evaluation points—eliminating all individual bias and enabling objective judgment.

2. PRICE

A complete evaluation system should go beyond the quality requirements and include the five other yardsticks or factors to be considered when purchasing from a supplier. Each of these needs periodic evaluation.

Understand Price Structures

Second in importance to quality, according to the survey results, is the consideration of a supplier's prices. This factor is best judged by the buyer purchasing the particular packaging material. He, through obtaining competitive prices on different items, comes to know, and is able to understand, the pricing structures of the suppliers with whom he deals. In this plan, pricing should be worth 20 points. The buyer himself must judge how many points to give a supplier.

A buyer may use some of the following guides for determining the point spread:

1. When the price is directly quoted in writing, stating full details on quantity and specifications, a supplier should receive the full point credit.
2. If plate or mold costs are involved in the pricing, are these clearly stated? Does the supplier assume these costs if the volume is large, or are the costs amortized over a reasonable time?
3. A supplier may juggle prices to undercut a previous quotation from a competitor. This indicates an unfair initial price and should be judged accordingly when awarding points.

3. COOPERATION

An important factor is the supplier's cooperation and service. This also should be assigned 20 total points. Here, the actual grading may be left to the judgment of the buyer or based upon standards set up by the individual purchasing departments.

The following factors may be used in judging how many of the 20 points should be awarded in this category:

1. Does the supplier meet scheduled shipping dates? If not, does the supplier notify you well in advance that it will not meet its obligation?
2. Will the company handle an emergency when required in fulfilling the buyers' needs?
3. Does the supplier indulge in sharp practices such as cheating on quality, or shaving or modifying specifications?
4. Is there misrepresentation in that production quantities are different than sample quantities?
5. Is there any form of reciprocity indicated or forced upon you?

These are just a few of the factors to which any purchasing department will look in evaluating its suppliers.

4. ORIGINAL IDEAS

The fourth factor is of importance because, in the field of packaging, where originality and package design often mean a gain or loss in sales, a supplier must be rated in light of the number and types of original ideas it is able to produce.

The package development and purchasing departments should co-

(Continued on Page 89)

PUTTING ZIGZAG GUIDES on chain conveyor eases pressure on jars entering filler. Without this, backlog pressure on jars going in could impair correct running of filling machinery.

Practical pointers to package uniformity

To achieve packages of uniform appearance and quality that its management demands, the production team at Spice Islands Company uses practical shortcuts and aids. These knacks insure the even feeding of jars, the "balancing" of filler vacuum and mechanical adjustments, proper adhesion of labels and their alignment, and 100 per cent inspection of the finished product.

When executives of Spice Islands Company, South San Francisco, California, look for their jars displayed on store shelves, they expect to see jar labels in exact alignment. They insist on uniformity of package appearance along with product and package quality.

Producing and packaging a wide range of exotic spices and seasonings, the company's plant operating group has sharpened its techniques conducive to package uniformity as well as its methods of cleanup, changeover and packaging line efficiency. Its effort to attain uniformity starts with the empty jar and runs through inspection of *every* finished jar at the point of case packing.

Ease Pressure On Jars

With a single unscrambler serving two filling lines (i.e., dual hoppers on the filler), a key step involves easing the pressure on jars entering the machinery, thus assuring correct entry of jars into filling equipment. There is an S-shaped, zigzag arrangement of conveyor guides instead of simply a set of straight ones.

This means jars going into the filler do not receive pressure from the jars following them. This arrangement eliminates the usual backlog pressure of jars that otherwise might impair correct func-

tioning of the filling machinery.

Proper Use Of Auger

The right filling action depends on proper adjustment of vacuum along with using the correct auger. Spices of a hygroscopic character, likely to pick up moisture very quickly, require speedy handling and filling. This assures no clogging. Similarly, stratification may occur with a product consisting of several items and may easily happen when different elements of the combined product are of unequal weight.

In preventing different parts of a product from stratifying into separate layers, Spice Islands production people have found a pin-type auger best. Also, they point out that the amount of auger pull definitely affects the flow of a product.

Collecting The Dust

When filling a fine powder, it is important to use a dust collector. Since the Stokes and Smith auger vacuum filler on a typical Spice Islands line utilizes a Syntron vibrator to shake down powder at the point of filling, a dust collector over the filler is helpful.

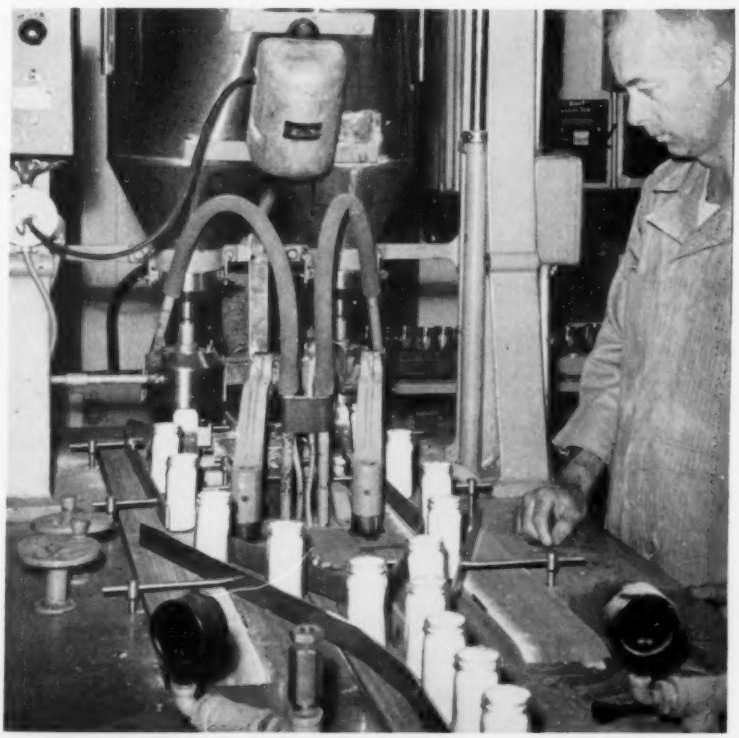
Also, there is a shield around the machinery. This prevents powder from drifting into belts and moving parts. Another benefit of dust collecting is to keep particles from accumulating on outside surfaces of jars. Powder accumulations here could impair labeling.

Techniques Of Filling

Forcing a product through filling by using too much auger pressure is undesirable. Doing so may cause the breaking up of certain spices before entering the jars. Similarly, in getting a continuous, accurate flow it is important to clean and check filters.

The experience of Spice Islands Company shows the value of experimentation with vacuum. When filling by vacuum, the correct setting of the timing cam is important. If this coordination is lacking, the product blows out in a cloud of dust. *(Turn page)*

JARS ENTERING FILLER (right to left) fan out so both hoppers fill jars at once. Since typical product contains many elements, use of pin-type filling augers prevents stratification.



DUST COLLECTOR at point of fill is helpful. It, plus shield around machinery, keeps powder from blowing onto belts or into moving parts. Vibrator shakes down powder being filled.

MACHINE RUNS AUTOMATICALLY but operator checks height of fill and condition of each jar. If product particles cling to outside jar surfaces, it makes labeling difficult.

PLASTIC LABEL GUIDE aids checking of registration and alignment. Spice Islands Co.'s strict package uniformity program demands that front and back labels line up at corners.

Getting Good Labeling

When the company undertook automatic filling, it found that even when jars (brought in from storage elsewhere) received preheating on the unscrambler, they were cold by the time they reached the labeler. As a result, it was difficult to achieve correct adhesion of labels.

Solution of this problem is to bring jars in from the storage area the night before, instead of moving them, cold, to the unscrambler —and preheating. Standing overnight in the general work area of the packaging lines, they absorb enough room temperature to facilitate labeling.

Once filled, jars go through a Resina capper. From here they move to a Biner-Ellison labeler which puts front and back labels on all jars. Adjustment and supervision of equipment is critical at this point; the company insists on accurate alignment of front and back labels at all corners.

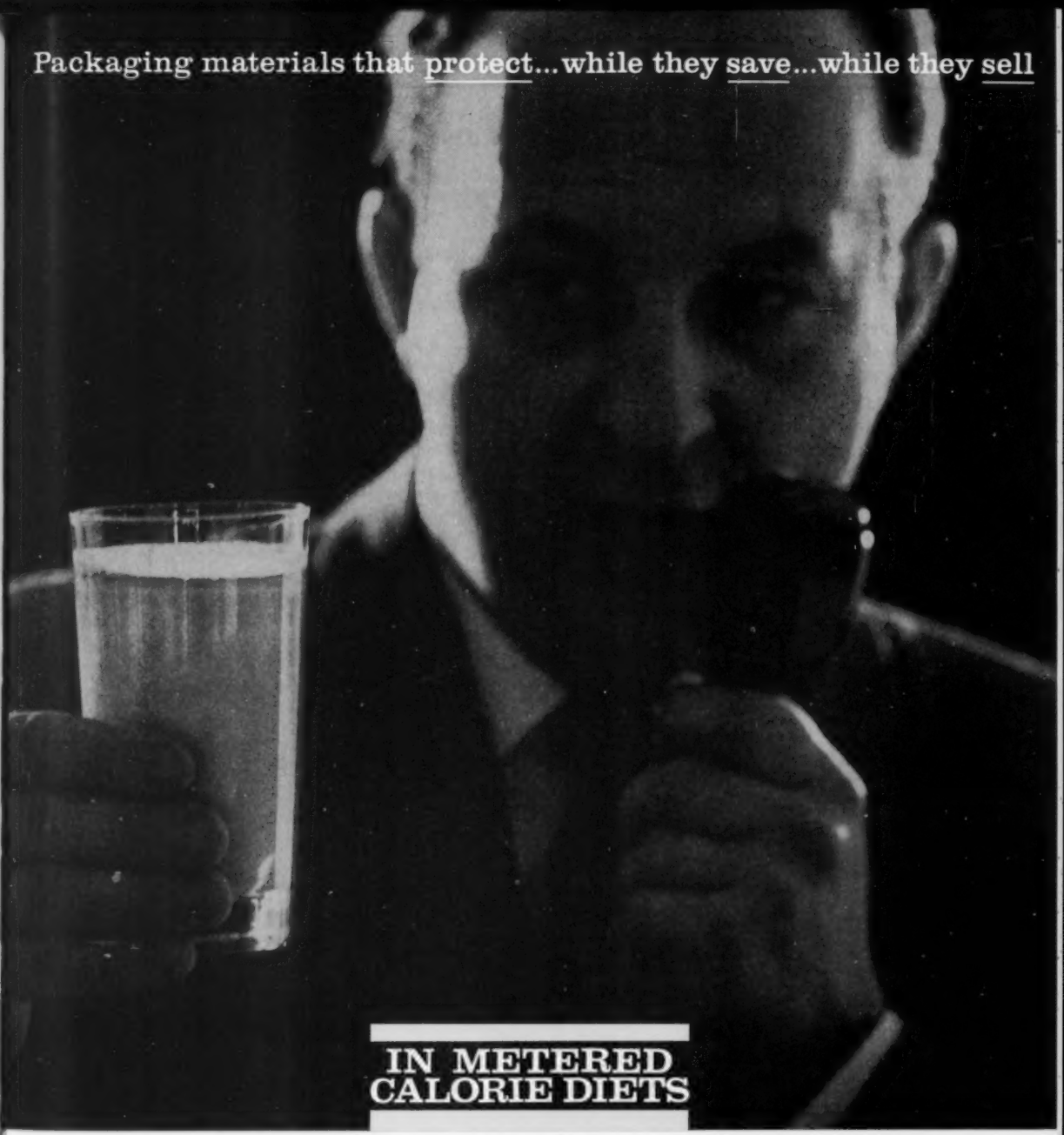
Besides keeping close scrutiny of the correct glue and maintaining its uniform consistency, Spice Islands production officials prescribe a helpful shortcut: an attendant simply fans the labels before putting them in the labeler magazine.

"Full Dress" Inspection

There is a plastic label guide installed on top of the labeler. An attendant puts every tenth jar in this guide to check label height and alignment. After labeling, there is 100 per cent inspection of jars. Spice Islands has not mechanized the packing of jars into cases because it wants someone to see every jar going into each case.

This, according to company management, is the key to 100 per cent quality control and package appearance without loss of production efficiency. The company has gone to great lengths to sell its packaging line workers on uniformity and quality. There is intensive training in an awareness of the importance of package uniformity and appearance. *(End)*

Packaging materials that protect...while they save...while they sell



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10

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New York 16, New York.

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Ten Key Decisions

1. What do our customers want our packages to do?
2. What do we want our packages to do?
3. What *else* do they *have* to do and should they do?
4. What properties contribute to the desired and required end-use performance?
5. What controls the smooth, efficient, and economical functioning of the package throughout the packaging operation?
6. How do we identify these different properties?
7. How do we measure them?
8. Within what limits must we maintain these properties to obtain the desired and required end-use performance?
9. What can we do, what must we do, to use this information effectively? What controls do we need and how do we use them?
10. What use will the operators of all these machines make of this information—of this new tool that has been given them?

Wanted:

packaging line tests that help you on the spot—Part I

By William Schoenberg,
Paper Industry Instruments, Cleveland

A testing program, to be of value, must make money for a company. The type of testing program that makes the most money for the company is the one that *prevents* trouble and expense—one that enables machines to run faster and more efficiently more of the time. Yet, a testing program that prevents trouble, expense, and improves machine speed and efficiency is hard to justify.

It is difficult to prove, with certainty, just what the trouble, expense, machine speed, and efficiency actually would have been, had the preventive testing program not been in force. It is much easier to justify the existence of a program that can show how bad production *was* and how many mistakes *were* made. This is typical of many testing and quality control programs. This post-mortem testing can indicate areas that need improvement. It cannot recover money that has already been wasted due to error or inefficiency. It will not necessarily prevent recurrence.

Today's tests of package and packaging line performance do little to help correct a troublesome condition while it is happening. Focusing on the need for better line tests, Mr. Schoenberg points out that much depends on a package user knowing just what is wanted. If you know your precise requirements, you can measure them. If you can measure them, you can most often control them. If you can do this, so can your supplier—and before the materials reach your packaging line. Research should lead to better testing and thus to improved packaging line performance.

Need Is Immediate

When a machine operator is in trouble, he needs *effective help at once!* He needs immediate information that will pinpoint his trouble. Is it the package? the adhesive? the machine? Or is it the operator

(Text continued on Page 38)

What does "something" cost your company?

When carton flaps pop open as filled packages issue from the compression section of a packaging machine, it takes neither an expert nor an instrument to know that something is wrong.

When folding cartons jam in the carton opening section of a packaging machine, even an unskilled observer can see that something is not working properly without first performing a test to get that information.

When something happens on the packaging line, usually the machine operator or adjuster readily finds the cause and quickly makes the correction. Frequently this is done without shutting down the line, but by just slowing down for a few minutes. Generally, only a few empty and filled packages are damaged, and the loss amounts to only a few cents as there is practically no loss in total production.

On most packaging lines, each unit of the line usually builds up a little "reservoir" of packages in the state of completion at which the packages are received at that station in the line. When something causes the line to shut down or to slow down before that station is reached, then packages taken from the reservior enable the remainder of the line to continue running at normal speed.

On most packaging lines problems of consequence are rare.

Let us determine how much money it costs the company to repair something in only a few minutes, when only a few empty and filled packages are damaged, and production is maintained at normal speed by processing partially completed packages from previously accumulated stocks.

Before attempting to arrive at even a hypothetical figure, the following definitions are necessary:

What is "normal" speed? How does it compare with the maximum speed of the machine?

How many minutes are a few minutes?

How many cartons are a few cartons?

How many cents are a few cents?

How much production is lost while the "reservoirs" of partially completed cartons are accumulated at various stations along the packaging line?

Now we can determine the cost of "something."

"Something" has cost your company:

1. A few minutes multiplied by the hourly rate of all employees who work on the packaging line where the trouble occurred ..... _____

2. A few minutes multiplied by the overhead charged against the packaging line ..... _____

3. A few minutes multiplied by the maximum production rate of the packaging machine is the lost production ..... _____

4. A few minutes multiplied by the salaries of adjusters, mechanics and/or others needed to correct the condition ..... _____

5. A few minutes multiplied by the departmental overhead ..... _____

6. The cost of the spoiled, damaged packages ..... _____

7. The cost of the wasted products or materials that had been packaged in the damaged packages ..... _____

8. The cost of satisfying the customers who received "the ones that got away" ..... _____

TOTAL _____

How often does "something" stop or slow down your packaging line each week? After a fair average has been determined, multiply that figure by the **total** figure arrived at above. Multiply the resulting quotient by 52.

Unless your packaging operation is an unusual one, your answer will show that "something" is very expensive.

"Something" is costing your company a great deal of money!

—William Schoenberg

himself? Before too many packages are spoiled and before too much machine time is lost, he needs to know *what* to correct, *how* to correct it, and *how much* to correct in order to get out of trouble—to prevent compounding the difficulties.

It is an unusual quality control program that supplies this information *in time* for the machine operator to use it to extricate himself from his immediate troubles.

The preferred quality control or testing program goes an important step further—it supplies information that *prevents* expensive trouble and makes corrective measures unnecessary.

Preventive Testing

What we might call "preventive testing" or "preventive quality control" evolves naturally from the combination of scientific principles and common sense with technical and production know-how. Preventive testing or preventive quality control differs from conventional testing and quality control programs in both concept and intent. It rests on the principle that it is more economical and, hence, more efficient to know what to do to *prevent* a costly waste of manhours, machine time, and material rather than to learn either the amount of error or the cause of error in items that are already produced.

William Schoenberg, while still a student at University of Chicago, joined Stein Hall Manufacturing Co. where he worked in various manufacturing departments, as a salesman and a branch manager. After working on the agglomeration of fine ores and similar materials for four and a half years, Mr. Schoenberg returned to Stein Hall for two years before setting up his own business. One of the founding members of the Lake Erie section of TAPPI, he is active in TAPPI's testing division. He is also a member of ASTM, American Society for Quality Control, and is chairman of PI's production control test methods committee.

The difference between this new and the older concepts of quality control is much like the difference between preventive maintenance and the older, conventional maintenance concepts. Here, also, the newer concept is primarily preventive while the older method is mainly corrective. However, both concepts are necessary to efficient production.

Ten Key Decisions

Testing is largely a matter of making decisions. To establish a good preventive testing program that will make money for the company, there are key decisions to make. In packaging, these decisions are:

1. What do our customers want our packages to do?
2. What do we want our packages to do?
3. What *else* do they *have* to do and should they do?

These three decisions determine the end-use performance of the

announcing the new

OLIVER '900' IMPRINTER

faster output, improved quality in-plant label imprinting!

Now, imprint your own roll-type labels right in your plant — when you want them and in the quantity needed. The new Oliver No. 900 assures you of fine quality imprinting, plus rewind operation for later mechanical application, or cut-stack optional feature for hand application. An entirely different form of label imprinting device utilizes a constant source of ink supply pot and rotary feed print segment. Imprints 200 labels per minute. Takes labels 1¼" high by 1" wide, minimum; 3" high by 5" wide, maximum. You can control your label inventory with the Oliver No. 900: overcome "outside printing" scheduling problems, eliminate waste from obsolete imprints.

Write for information and free folder.

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PACKAGING DIVISION

Grand Rapids 2, Michigan

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This crystal clear polyethylene cast film lasts far longer on the shelf than cellophane . . . eliminates wrinkled and split wraps . . . stacks easier . . . yet costs you less at the end of the production line.

METAPLENE — now the clearest poly film on the market — is a medium density polyethylene with the high tensile strength, stiffness and uniformity essential for high speed production on modern packaging equipment.

Excellent printability and no heat sealing problems are still other important advantages of METAPLENE. Ludlow supplies flat film up to 72 inches in width...with a thickness tolerance of plus or minus 5%.

Why not get *all* the facts about METAPLENE? Write today for samples and technical data on this and other new plastics made by Ludlow's new cast film process. Write Dept. PE 11.

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plastic coated materials, films, and other flexible materials for packaging and industry
A DIVISION OF LUDLOW CORPORATION, NEEDHAM HEIGHTS 94, MASS.

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filled package that is wanted and needed—the two are not necessarily the same. The second section of the ten key decisions is:

4. What properties contribute to the desired and required end-use performance?
   a. What properties of the filled package?
   b. Of the filled package components?
   c. Of the primary package?
   d. Of the primary package components?
5. What controls the smooth, efficient, and economical functioning of the primary package throughout the packaging operations?
   a. What properties of the primary package?
   b. Of the primary package components?
   c. Of the other materials used in the packaging operation?
   d. Of the packaging machines?
   e. Of the auxiliary packaging equipment?
6. How do we identify these different properties?
7. How do we measure them?
8. Within what limits must we maintain these properties to obtain the desired and required end-use performance?

Until you make the above decisions, you cannot supply the effective quality control information necessary to consistently meet the first, second, and third decisions. It is impossible to control consistently and effectively until you know what to control, how, and how much to control. Then, with this information, you are able to decide:

9. What can we do, what must we do, to use this information effectively? What controls do we need and how do we use them?

The success or failure of the whole program depends upon the next decision, or rather, the next decisions—the decisions made countless times each work shift by the men and women who run the machines.

10. What use will the operators of all these machines make of this information—of this new tool that has been given to them?

Build Your Own Program

Through the intelligent use of these ten decisions and of the information which they provide, it should not be hard to custom-build programs, where needed, that best eliminate most jam-ups and slowdowns; defective, substandard, or otherwise undesirably filled packages; and lost machine time.

Methods, statistics, data, charts, and other aids are frequently important, but they neither run nor control machines. Machines are run and controlled by *people!* For an operator to run his machine most efficiently, he must have, in addition to his skill, a continual stream of information that accurately describes the changing properties of the materials being run on his machine. This information should be:

1. Simple enough for him to readily understand.
2. In a form in which he can easily put it to effective use.
3. Available in time for him to use it to advantage.

This program, to be successful, should be presented to the operators and adjustors in a way that wins their enthusiastic support.

Automated Control

Most of today's new processes depend upon automation to maintain control at high production speeds. Many older methods have gained more speed and efficiency through the application of automation to these processes.

In essence, automation comprises continuous, automatic control based on continuous automatic measurements. The ten key decisions, by means of continual testing, provide a constant stream of information on which to base continuous control.

The men who run packaging departments are largely men whose years of practical experience have made them experts in this field. They consistently turn out millions of packages and, with few exceptions, do so at the smallest cost per finished unit packaged.

In most instances, they have done this without being plagued by tests, and without using the ten decisions. Why should they suddenly have to use them?

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proven preformed material

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ENGINEERED PACKAGING

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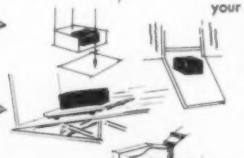

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Laboratory Developed and Tested Packaging

VANANT COMPANY, INC.
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Aim: To Cut Costs

There is only one reason for these decisions—not just money, but *more* money. If, through the use of these ten key decisions, a packaging operation becomes more profitable, then they are important to the company.

Taking a lead from what has successfully brought down costs in many manufacturing processes, there is a tendency to speed up the operations to reduce the unit cost.

The high cost of much of today's equipment requires high speed for high volume production. This, in turn, increases the requirements of the control problem. This is true because when you increase the speed of a machine or an operation, four things occur:

1. Machines require adjustment to closer tolerances.
2. Machine adjustment must be maintained within finer limits.
3. Machines require greater uniformity in the performance of the components to be processed and in the quality of the properties that control prime package performance.
4. Machines are unable to maintain former standards of excellence and uniformity in the materials produced.

Need For Control Grows

So, by merely increasing the speed of an operation, one automatically increases the need for improved control which, in turn, automatically increases the need for making the ten key decisions.

Downtime is more expensive on a fast machine than on a slow one. The economics of faster machines thus dictate less downtime than on slower machines. This makes it worthwhile to spend the money to learn how to keep the faster machines running at full speed all of the time.

Packagers will find that the ten key decisions help in telling suppliers *what* must be more uniform. Asking for better "machinability" or better "runability" will no longer be good enough. Actually, they are not good enough *now*. These vague, general terms have caused more confusion than cooperation in the past. Instead, you must specify required properties, devise means for measuring them, and set limits of acceptability.

Published test procedures have a universal language in industry. A given test value means the same thing to anyone who is familiar with the test procedure, irrespective of where or when the test was made.

Planning Your Tests

To obtain the necessary improved uniformity of components, the procedure outlined in our ten key decisions can well become a necessity. Activating this program will demand new tests based upon instruments, some of which have not yet been invented.

Actually, there is nothing about tests that should bother the practical packaging production man. Tests have always been made by packaging machine operators and adjusters; they cannot operate their machines without them.

(Turn page)

Speed-up movement of free-flowing products!

WHIZ-LIFTER
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Meet rigid Board of Health requirements.
Whiz-Lifters can be used in conjunction with all types of materials handling operations for transfer and elevation of a product from one point to another.
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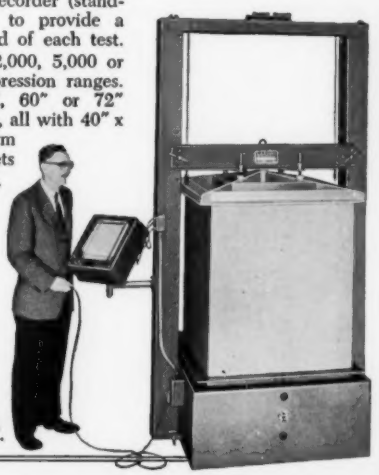
- **Compact, rugged, economical to buy, operate and maintain**
- **Built specifically for tests on shipping containers, packages and packaging materials**



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Simple, Practical Tests

A test is "a measurement of something, or of a property of something." Thus, each time the operator or adjuster of a carton-filling and -sealing machine squeezes open a carton, bends a carton flap, or riffles a handful of cartons, he is making a test—he is "measuring something." His trained skill or sense of "feel" is meauring, for him, the pressure or force that is needed to erect these cartons, to bend the flap and body scores, and to check the board stiffness. His experience has taught him that these forces control carton performance during the packaging operation. His "test" measures the level of these forces for him.

A good machine operator or adjuster bases his machine set-up on the results of these tests. Throughout a run, he makes these tests, modifying his machine adjustments as indicated by this rudimentary test information.

Need New Measurements

Faster machines, competition, consumer demand, and the need for more efficient, lower-cost packaging operations all tend to make such measurements necessary. Research shows that the performance of folding cartons during the packaging operation is largely controlled by the interrelation of score bend, opening force, and board stiffness, and also the "spring-back" values of these three forces. Instruments are available to measure these forces of folding cartons and thus lead to improved understanding between carton users.

The trained skills of the machine operators are no longer consistently providing adequate control. Where high-speed packaging machines have been installed, and trained skills remain the principal "control," the wasted man-hours, wasted machine time, wasted material, and wasted packages usually become both more frequent and more expensive than before. Usually, the faster machines produce more acceptable packages within a given time, but the *percentage* of trouble-free operation at maximum machine speed is less than with the older, slower machines. The faster the machines run, the greater is the need for assistance for the operators and adjusters.

Applying Expedients

Some packagers have improved a line operation by merely running lots of packages in the order they were received and, within lots, running packages in sequence as the package supplier's number indicates. Others feed one lot to only one machine. One large packager was able to eliminate an average of 40 downtimes a week through application of this idea alone. It reduced the need of machine adjustment to compensate for variations in the packages themselves.

But this is only part of the answer. You also need tighter control, based upon measurements. It is desirable to have available an

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Cookies, candy, chewing gum . . . a Package DF-1 helps cut your wrapping cost. If you're looking for high speeds and automatic operation, fast size changes and a neat final product, this is your machine.

The DF-1 makes another saving possible, too, for it is the *only* machine to wrap a 2 on 3 vending machine pack *without a bottom card.* You can do up to 150 packages a minute, in printed and registered cellophane with an easy opening tape. You get a tight, attractive wrap with a positive bottom seal along its entire length. Size changes take only minutes, and gentle product handling reduces breakage.

A Package DF-1 feeds automatically from one or two Quality sandwich makers, or directly from a candy line, for high-speed operation. Ask your Package representative to show you the many cost-cutting advantages the DF-1 will bring to your operation.

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PACKAGING IS PART OF YOUR PROFIT PICTURE

Du Pont "K"* cellophane keeps candy fresh longer

Take the case of the candy manufacturer who distributes his products in 16 western states. Talk about dry—out there the average humidity is 12% to 17%. You can imagine what *could* happen to his candy.

He tested all sorts of packaging materials. But only one was moisture-proof enough to keep his candy from drying out—and also tough enough to take the knocks of shipping and handling. It was Du Pont's new polymer-coated "K" cellophane, Type 600.

But that's not the whole Du Pont cellophane protection story. "K" cellophane, Type 600, is just one of over 100 Du Pont cellophanes with different coatings for special packaging jobs. They're all tops for efficiency on high-speed packaging lines . . . and all give crystal-clear transparency that moves products *fast!*

Need help with a packaging problem? Call a Du Pont Representative. He'll be glad to help you. And ask him for the new booklet, "Properties and Uses of Du Pont Cellophane". It's a handy reference guide that can be useful to you. Or write: Du Pont Film Dept., PE-1, Wilmington, Delaware.

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DU PONT cellophane

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established or a published test method or procedure based upon an instrument that supplies numerical values of the property to be measured.

Finding the "right" method and the "right" instrument for a particular application is not easy to do. It is extremely exasperating and disappointing, after much time and money have been spent, to find that what appeared to be an ideal solution to a problem is not quite right for the particular purpose intended. It then may be wise for a production man to team up with someone from the quality control department. Their combined approach to a problem is often better than either of them approaching it independently.

How Instruments Develop

It is not always easy to come up with test procedures that are satisfactory for a given degree of control—particularly when measuring a new property. Instruments do not grow. They are invented, and only invented when someone is in trouble.

At such a time, there are five ways to find the right instrument:

1. To adapt an instrument being used for the same purpose elsewhere in the industry.
2. To adapt an instrument being used within the industry for other purposes.
3. To find an instrument being used in other industries which adapts itself to the particular purpose in question.
4. To invent an instrument to supply the needed measurements and other information.
5. To get someone else to invent the instrument.

To some companies, it could present a considerable problem to invent an instrument for a special purpose and to develop a test method for the use of the instrument.

If the problem to be solved is not peculiar to only one company, which is generally the case, then this can become an important area where the technical and industry organizations can serve their members. Through these associations, group action can be taken to develop new and needed test methods. This results in a lower cost to those participating than if each did the work itself. It avoids duplication of effort and leads to a standard acceptable to all engaged in the given problem.

It is likely that with more companies testing the method under more conditions than are available in any one company, the resulting method will be more accurate and more precise under a greater variety of conditions than if the method had been developed by one company working alone.

Aids To Purchasing

Uniform methods for measuring important properties of something, with established levels of acceptability, are standard in purchase specifications for many items. If the test methods are adequate, there can be no argument; a product is "right" or it is "not right."

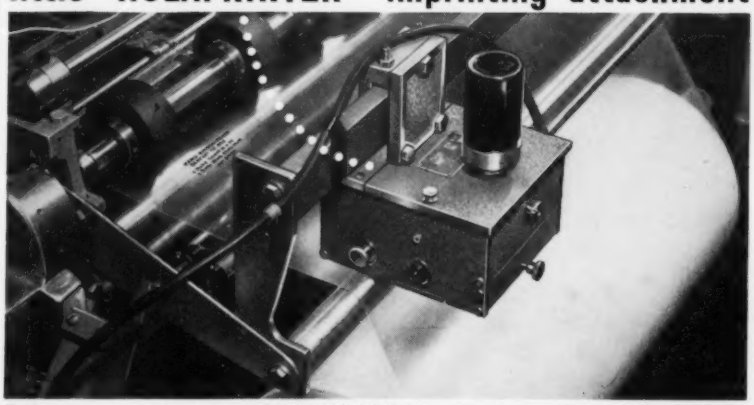
Specifications for packaging materials commonly describe properties important to the purchased product or its manufacture. They are not likely to describe properties important to the *use* of the purchased product during the packaging operation or important to the end-use performance of the filled packages. Therefore, they do not furnish the supplier with information as to what is expected of, or from, the material he provides.

In essence, purchase specifications are intended to provide a complete understanding of what buyer and seller expect from each other. The more comprehensive the specifications, the smaller the chance for misunderstanding.

What Spec's Should Have

Purchase specifications should assure the customer that what it is buying will be "right" for its intended usage. Frequently, this is not the case when purchase specifications primarily describe *properties* of the purchased product and do not list numerical values of expected *performance* of the purchased product. *(Turn page)*

No wrapping machine is complete without this little "ROLAPRINTER"® imprinting attachment



Buying a new wrapping machine? Order it with a Gottscho "ROLAPRINTER" factory-installed. Adds little cost, big advantages.

Amazing "ROLAPRINTER" unit lets you imprint the package as your products are wrapped — automatically — with no direct labor cost. Cuts packaging costs, speeds production. Has a dozen uses — for imprinting codes, prices, weights, sizes, product names, promotion specials, block-outs, even complete designs. Attach it yourself on any wrapping, bundling, bag or pouch machine. Makes good legible imprints consistently with instant-drying fluid ink. Foolproof — requires no adjusting, no attention during operation. Over 1000 in use.

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For example, specifications for adhesives usually describe the percentage of solids, the type of solids, pH, viscosity, etc. Specifications for folding cartons, in addition to dimensions and printing, are likely to describe the kind, weight, caliper, stiffness, and burst of the board, and possibly the amount or degree of pre-break of body scores. None of the foregoing specifications assures that the product will run well on packaging machines, be satisfactory for intended end-usage, or that the customer is buying the best value.

Who Establishes What?

Using folding cartons as an example, it is largely the responsibility of the packager to determine what properties of folding cartons are important to the smooth functioning of packaging machinery and to satisfactory performance of the cartons after they have been filled, sealed, packed, and shipped. You need ways to measure these properties that are helpful to your operation and that help your carton suppliers control these properties during manufacture. The user should establish levels at which these properties perform to advantage and define the limits of acceptability which suppliers can maintain through the use of reasonable care.

The carton suppliers should know what materials to use and how to process them to comply with the specifications. They should be willing to test cartons at various stages of manufacture to assure conforming to specifications, and should furnish reports to the packager of the test values of the specified properties of each lot of cartons.

Applying The Decisions

Such a division of responsibility can work to the benefit of both buyer and seller. Each will find that the ten key decisions will become extremely important and that, through their application to their common, yet different, problems, a more effective cooperation will develop.

This suggested program may seem a hardship upon those depending on either commercial testing laboratories or centralized company laboratories (as when samples from different plants within one company are sent to a central laboratory for testing). Instead, this suggested program is more likely to become a blessing in disguise. Reports from distant laboratories cannot be used for other than "referee" or historical purposes. They cannot be used to control current production, to *prevent* wasted man-hours, machine time, materials, and money in either the carton making or the packaging operation. And this is what is accomplished when the ten key decisions are put to constructive use.

(The concluding part of Mr. Schoenberg's article, which includes four case histories with their analyses, will appear in next month's issue.)

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MODEL B-49 STRAIGHTLINE VACUUM FILLER. For liquids and semi-liquids. Fills 4 to 9 containers simultaneously; up to 50 small containers p.m. Lever engages and disengages filling stems, otherwise operation is automatic. Adjustable for all container heights up to 14"; miniature and standard bottle finishes, gallon F-style cans, wide mouth jars. Stainless steel is standard; plastic for filling special solutions on order. Discharge conveyor optional. For details, request "Bulletin B-49."

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MODEL B-2 VACUUM FILLER. Fills 2 containers while filled containers are being removed and empties loaded. Thus, operation is continuous. Handles containers up to 4⅛" dia., 13" hi. Interchangeable stainless steel filling stems; plastic available on special order. Portable. Has cord and plug. Write for "Bulletin B-2."

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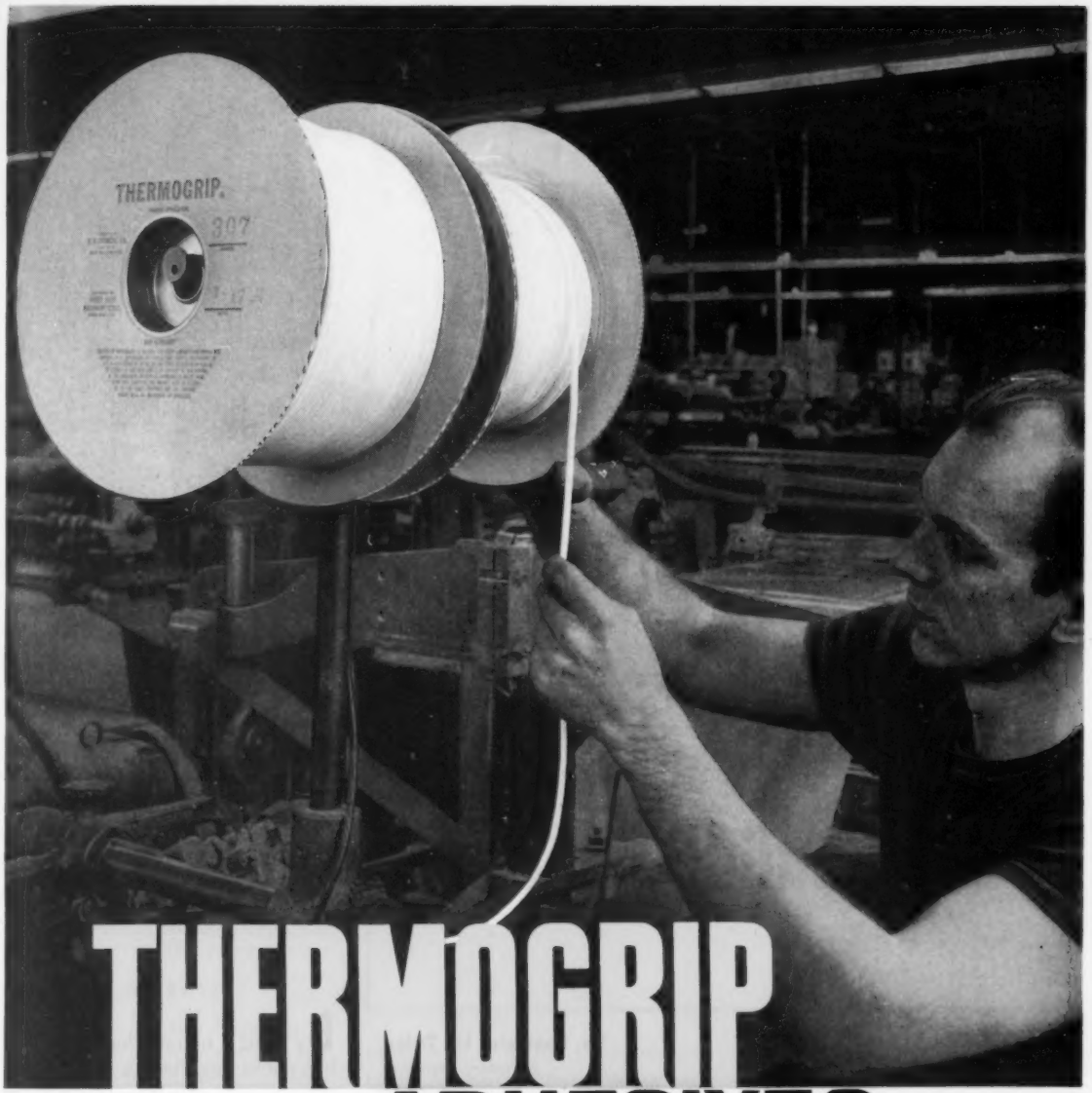

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THERMOGRIP hot melt adhesives can give you closer control over costs and bond quality than you've ever had before! Using any of six different THERMOGRIP applicators — each a complete "packaged" adhesive system — you can get faster production from present equipment or equipment of new design. And quick-setting bonds improve the product of the packaging or converting machine.

Because of THERMOGRIP Adhesives, new carton gluing machines are ten feet shorter. A converter combines multiple units with better register and appearance, cuts out a separate costly operation. Package users are closing cartons of hard-to-bond surfaces fast and neatly. In many installations production rates are up 50% or more.

THERMOGRIP Adhesives and applicators will give you the most up-to-date bonding method available. Glues standard or hard-to-stick materials such as poly, foils, waxed surfaces, porous materials, special papers.

Tell us the materials you're gluing and describe your equipment. We shall be glad to suggest how THERMOGRIP Adhesives can help you. United Shoe Machinery Corporation, 140 Federal Street, Boston, Mass., LIberty 2-9100.

United

1 TO FILL 8 1-GAL. CANS (after positioning under nozzles), operator controls simultaneous flow with lever in right hand.

2 AFTER FILLING, operator opens stop device on guide track and pushes cans to adjoining table for sealing and capping.

Handling short runs at a profit

By Leonard H. Tyler,
Secretary-Treasurer,
Baldwin Oils and Commodities Company,
Jersey City, New Jersey

Many products and short runs demand flexible packaging lines for volume production. A non-mechanized operation offers the only efficient way to get the flexibility required to fill and cap paint liquids from bulk shipments for local distribution, says Mr. Tyler. He shows that short runs and low-profit products need not wipe out efficiency nor create excessive packaging costs, even with hand labor.

By using a non-mechanized, flexible packaging line, a small company, such as ours, can break down bulk shipments of paint liquids for distribution in a competitive local market. The flexibility and low changeover time resulting from almost complete hand packaging contributes a great deal to the economical packaging of low-volume items.

Basis Of Operation

We use only the simplest, fundamental packaging devices and methods in our operation. Even so, we turn out a notably large volume of paint liquids for distribution to retail outlets. In addition to packaging items under our own trade-

mark, we are the local distributors for several major companies.

We package nine different commodities including linseed oil, turpentine, alcohols, and paint thinners. Although these different products have varying viscosities, we have experienced no difficulty in handling the differences in rates of flow with our basic packaging equipment. The variations in product characteristics do not impair the flexibility of our operation.

Economics Justify Simplicity

To understand how our packaging operation fits into the over-all scheme of packaged product distribution, you must keep in mind that paint liquids are low-profit items. Successful marketing depends on packaging them locally and at minimum cost. We do this by using only the most basic packaging equipment and usually only two or three operators on a line.

Our experience as a local packager of linseed oil, turpentine, alcohol, etc., emphasizes two points:

1. Don't underestimate the value of maintaining the greatest degree of flexibility possible. For us, this means a nonmechanized packaging operation.
2. Capitalize on any techniques or procedures which minimize the time spent in changing over from one product to another—a necessary and often-repeated task in a packaging operation which has as many and varied short runs as we do.

HOW LINE OPERATES

We receive our raw materials in railroad tank car lots—an average load being 8,000 gal. We pump the different paint liquids directly from the tank cars to various 12,000-gal. storage tanks.

The product is then pumped from the bulk storage tank to another 600-gal. reservoir or ready tank which supplies the filling equipment on our packaging line.

We use pint, quart, gallon, and 5-gal. F- or I-style cans, and 55-gal. drums. The cans come to us in kraft-wrapped bundles. An operator removes them from these bundles by hand and places them directly onto the packaging line.

The empty cans are then pushed by the attendant along a guide track leading to the filling equipment. A stop device is located at the end of this guide track and is adjusted for the various sizes of cans to be filled so that they are correctly positioned under the filling nozzles.

We use four Packer filling machines; two have 8 filling heads or nozzles each, the other two have 12 each. The nozzles are inserted into the opening of the cans, and a rubber gasket or washer on each nozzle prevents the liquid from splashing out during filling.

We fill 12 pint or quart cans at one time. The filling machines for these sizes are vacuum type. Eight 1-gal. cans are filled at a time on the other line which is fed by gravity from the reservoirs. Our 5-gal. cans and 55-gal. drums are filled by a gravity-fed 5-gal. machine. When the 5-gal. cans are filled, the machine cuts off automatically; the filled 55-gal. drums are weighed on a scale.

Filling And Capping

To fill the cans after they have been positioned under the nozzles, an operator pushes a lever on the semiautomatic filling machine which starts the simultaneous flow of liquid through the nozzles and into each can. (See Fig. 1.) When the cans are filled to the proper level, any overflow runs out

Why we package for local distribution only

- For some time, we have been convinced that the packaging and distribution of paint commodities—such as linseed oil, turpentine, alcohol, paint thinner, etc.—had to undergo some serious changes. These are basic commodities and are extremely competitive. Every possible economy must be effected to remain competitive.
- Most packaging was, and is, performed at point of production. However, increasing freight rates, can and shipper costs, labor increases, and other growing costs, began to make the gap between bulk and finished package greater and greater. With these facts in mind, we planned and built our present plant and warehouse.
- We receive our materials in 8,000-gal. tank cars. Our cans and cases come from local suppliers, eliminating freight to and fro. We pack under our own label as well as for two well-known national producers under their labels. We sell these two national brands for our own account as well as service their accounts—where freight advantages occur. Actually, we are as basic as we can be other than producing the commodity itself.
- In addition, we have another advantage. Today, a distributor must buy full carloads or trailerloads of a single product—in order to be competitive. Due to our versatile operation, we can offer mixed trailerloads of seven or eight different products at virtually the same price for these materials in individual carloads.
- Changing times cause changing conditions. We are sure that the problems we are facing must apply to other industries as well. It is our confirmed opinion that smaller, local packaging and distributing units can be the answer to many of these problems.

—L. H. Tyler

through overflow valves (located in each of the filling nozzles). Flexible tubes connected to these valves empty the overflow into a 5-gal. can or 55-gal. drum. The operator then stops the filling by releasing the flow-control lever.

After the cans are filled, the stop device on the guide track is manually opened and the cans are pushed by hand to a large table for sealing and capping. (See Fig. 2.) When the table is loaded with filled cans, concave metal seals are placed inside the rim of each can spout and are pounded into place with a rubber mallet. (See Fig. 3.) The caps are then placed and screwed down by hand on each can. (See Fig. 4.)

If we have a rush order or a comparatively long production run, we add a second man to the line. He seals and caps the cans as they come from the filler.

When the cans have been sealed and capped, they are hand-loaded into corrugated shipping cases (see Fig. 5) and placed on pallets. From here, we move the loaded pallets to our storage area to await shipment.

Our shipping cases are made of 275-lb.-test corrugated board with a bleached white kraft outer liner. In spite of the added cost (about $8.00 per 1,000 containers), the per-can cost of a white shipping case is very small and we feel we can afford the added expense to provide a clean-looking white container for customer appeal.

Runs Small Orders

Since we have a very simple hand-packaging operation, we have the necessary flexibility to efficiently fill small orders. We can economically fill 1,000 cans (about 40 cases of pints, for example) or less at a time. And we can accomplish this with very little or no downtime, depending on products being filled, and keep our packaging costs at a minimum.

Changeover between various paint liquids can usually be accomplished quickly, since products such as carbon tetrachloride and alcohols evaporate and leave no residue to be cleaned out. Linseed oil and pure shellac have to be cleaned out of the fillers, but a quick rinse with the proper solvents takes care of the cleanup for changeover.

Hand labor is expensive, but the length of production runs we have does not justify the investment necessary to put in a completely automatic line. Our hand method of packaging appears to us to be best suited to the economics under which we operate, and to production-run considerations. For instance, we may ship only one or two cases of a given product to a customer in one order.

Expect More Machinery

Although we do have short production runs and must cut our costs to the bone, we are always alert to opportunities for partial mechanization. At this point, we are considering putting in an automatic sealer and capper to allow us to increase production speeds and meet peak demands. This will allow faster handling of short runs or rush orders.

We will, in any case, continue to feed cans to the line by hand and will fill shipping cases manually. Production speeds at low cost can best be maintained, we feel, in a combined hand and machine operation. *(End)*

Leonard H. Tyler is a graduate of New York University with a B.S. in marketing and advertising. After five years as representative to the commodity exchanges for Bache & Company, he joined the sales department of Weiss & Klau Company. In 1943 he helped found Baldwin Oils and Commodities, Inc. and is now secretary-treasurer. Mr. Tyler is secretary-treasurer of Naval Stores Dealers Association and public relations chairman of New York Paint, Varnish and Lacquer Association, Inc.

3 CONCAVE METAL SEAL is placed inside rim of each can spout and pounded into place with rubber mallet. This operation is done after table is loaded with cans.

4 AFTER SEALING OPERATION caps are placed and screwed down by hand on each can. Usually one man operates filler and does sealing and capping. On rush order, however, a second man is added to line.

5 FILLED, SEALED AND CAPPED CANS are manually loaded into corrugated shipping cases and placed on pallets for transfer to storage area to await shipment.

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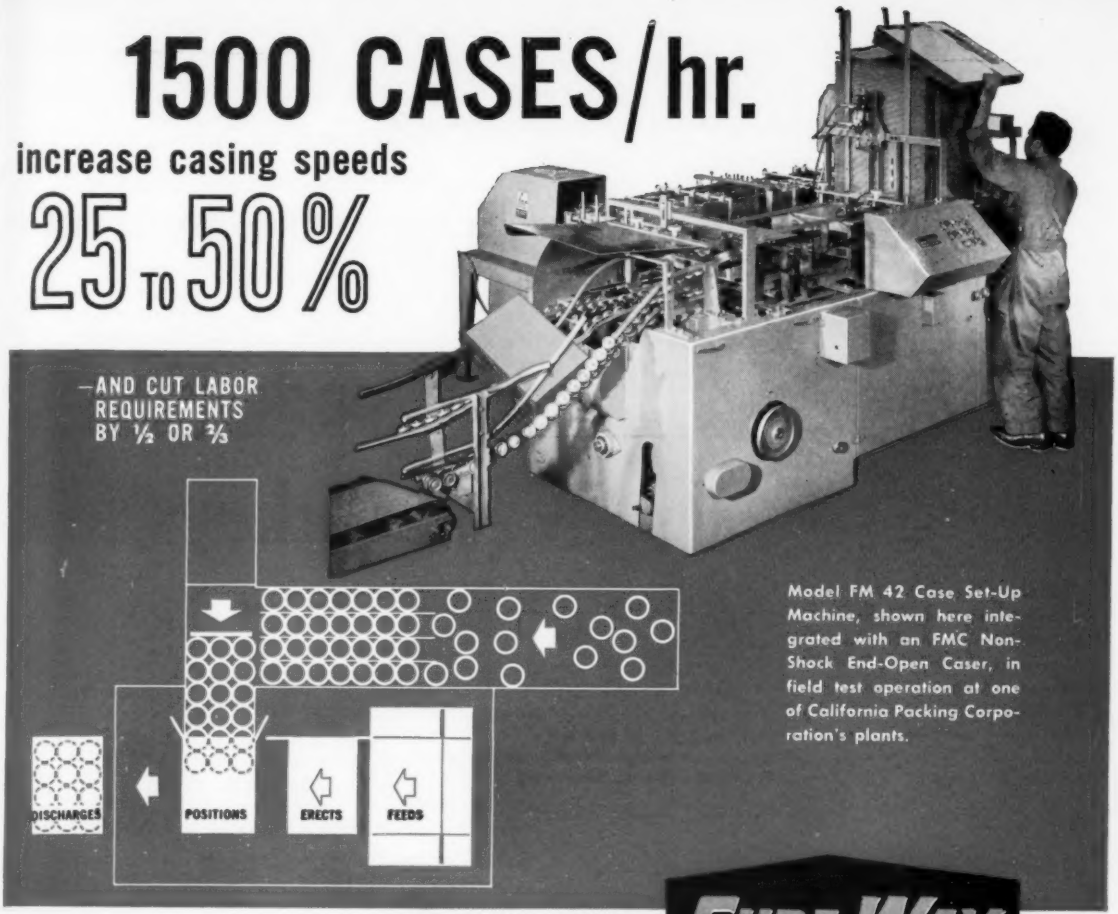

Model FM 42 Case Set-Up Machine, shown here integrated with an FMC Non-Shock End-Open Caser, in field test operation at one of California Packing Corporation's plants.

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How vinyl affects palatability of frozen turkey fryer-roasters

Vinyl film packaging for frozen turkeys*

By J. D. Winter,† Shirley Trantanella, and Milo H. Swanson,
Institute of Agriculture, University of Minnesota, St. Paul,
and W. B. Ackart,
Union Carbide Plastics Company,
Bound Brook, New Jersey

Summary

► Turkey fryer-roasters were packaged, frozen, and stored at approximately 0°F. (—17.8°C.) for 7½, 10½, and 12½ mo.

► Packaging materials used were bags of three experimental types of shrinkable vinyl films. Excess air was evacuated by use of standard commercial packaging equipment, and the bags then were shrunk around the birds by dipping into hot water.

► There were no significant differences in the taste-panel scores among any of the samples of the white meat, dark meat, and skin, respectively, at any of the storage periods.

► The palatability scores of the birds packaged in all three experimental types of vinyl film remained exceptionally high at all storage periods.

► No noticeable changes in appearance were observed among any of the birds after thawing and prior to cooking.

This study was designed to compare the palatability of stored, frozen turkey fryer-roasters packaged in three experimental types of shrinkable vinyl films.

In a previous study at this station *(11)*, no major differences were found in the palatability of turkey fryer-roasters stored at 0°F. (-17.8°C.) in packaging materials known to differ widely in the rate of permeability to oxygen. All of the packaging materials included in that study were of relatively low water-vapor permeability. The storage periods were for 5, 8, and 11 mo., and there was a distinct and very uniform decrease in palatability scores between the 8- and 11-mo. storage periods, regardless of the packaging material used.

Similarly, Wills, *et al (8)* re-

*Paper No. 4365 Scientific Journal Series, Minnesota Agricultural Experiment Station. This study was partially financed by a grant from Union Carbide Plastics Company, Division of Union Carbide Corporation.

†The research for this paper was completed before Mr. Winter's retirement last summer.

ported no appreciable differences in palatability ratings of frozen chicken fryers, attributable to packaging when stored for 3, 6, and 9 mo. at temperatures of 10°F. (-12.2°C.) and lower, in metal containers and in waxed cartons. Composite breast and thigh muscles, gizzards, and livers were used. Appreciable losses in oxygen and corresponding increases in carbon dioxide content during the storage period were noted in the sealed metal containers.

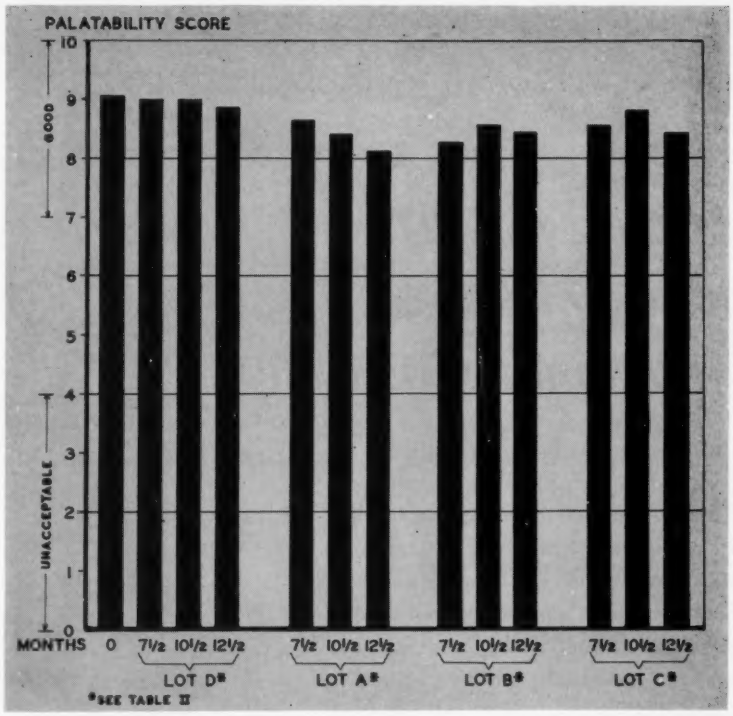
Likewise, Winter and Trantanella *(10)* found no differences in the palatability of frozen broiler chicken thighs, attributable to packaging after storage for periods up to 13 mo. at about 8° to 12°F. (-13.3° to -11.1°C). The six packaging materials used in that study were of relatively low water-vapor permeability, but were known to differ widely in the rate of permeability to oxygen.

Also, Klose, Hanson, and Lineweaver *(3)* noted that aluminum foil, polyethylene film, and cellophane gave essentially equivalent protection to turkey steaks stored at 0°F. (-17.8°C.) for 3, 6, and 12 mo. Margolf, *et al (6)* reported similar results with poultry stored at 10°F. (-12.2°C.) for 12 to 72 wk. in cellophane, Pliofilm, and polyethylene films.

On the other hand, differences in the flavor of frozen, stored poultry, attributable to packaging, were found when materials that differed widely in permeability to water vapor were used *(2, 12)*. Also, Klose, Mecchi, and Hanson *(4)* found that aqueous gelatin coatings, with or without an antioxidant added, provided some protection against rancidification when turkey steaks and half turkeys were stored for 6 mo. at 10°F. (-12.2°C). The coatings gave much more protection when they contained antioxidants in suspension. No data were given on the permeability of the gelatin coatings to water vapor and oxygen.

MATERIALS AND METHODS

No weight records were taken because previous studies with packaging materials of comparable low water-vapor permeability *(1, 5, 9, 10)* have shown that no appreciable change in weight occurs under similar experimental conditions.



1 COMPARISON OF PALATABILITY SCORES maintained by frozen light turkey meat stored at 0°F. for 7½, 10½ and 12½ months in four shrinkable vinyl film types (Lots A-D).

Selecting And Handling Turkeys

The birds were fryer-roasters, commonly known as broilers, averaging about 6 lb. eviscerated weight. They were obtained from a commercial processing firm in an area where relatively uniform production methods prevail.

The birds were processed under commercial conditions, including subscalding at 140°F. (60°C.) and chilling in slush ice. On the day following processing, the eviscerated birds were delivered in an ice pack to the laboratory where they were immediately packaged and frozen. Fifty birds were used in this study. *(Turn page)*

TABLE I

Description And Permeability Data Of Packaging Materials Used In Studying Effect Of Vinyl On Palatability Of Frozen Turkey Fryer-Roasters

Lot	Packaging Material Description	Permeability*
A	0.0017- to 0.0019-in. thick plasticized polyvinyl chloride-acetate copolymer solution-cast film, rendered shrinkable by biaxial orientation (Krene VBA-9123 natural)	148.3
B	0.0012- to 0.0014-in. thick experimental polyvinyl chloride copolymer film, rendered shrinkable by biaxial orientation	50.5
C	0.0013- to 0.0015-in. thick experimental vinyl film, shrinkable (Visking)	3.3
D	0.0015-in. thick vinyl chloride-vinylidene chloride copolymer film, shrinkable (reference samples)	17.2

*Moist 0_2 at 23°C. (73.4°F.), in cc./24 hr./100 sq. in./0.001 in. Permeability data were supplied by packaging division laboratories of Union Carbide Plastics Co., Div. of Union Carbide Corp., and by plastic film research and development department, Visking Co., Div. of Union Carbide Corp.

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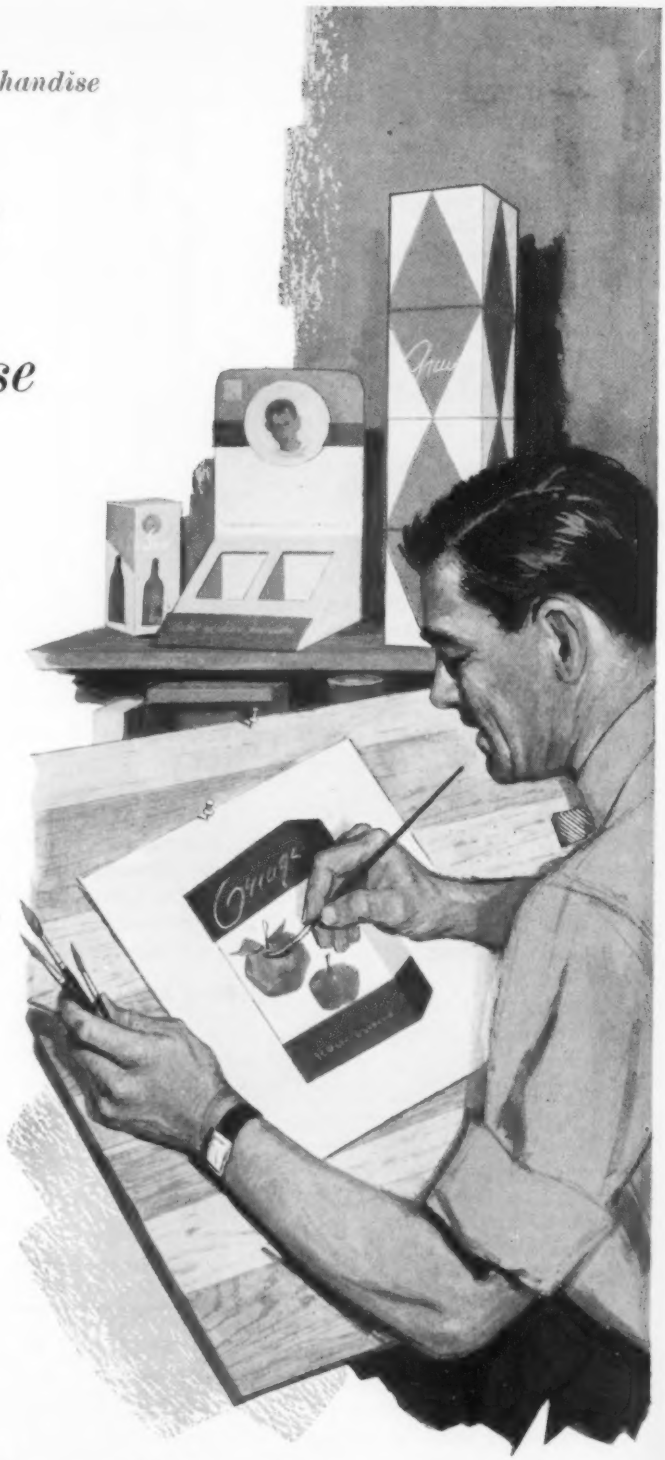

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TABLE II

Average Palatability Scores Of Frozen Turkey Fryer-Roasters Stored In Various Vinyl Films At 0°F. (-17.8°C.)

Lot	Packaging Material Description*	Storage Period (mo.)	Palatability Scores (Avg.)† Light Meat	Dark Meat	Skin
A	Plasticized polyvinyl chloride-acetate copolymer solution-cast film	7½	8.6	8.4	8.5
		10½	8.4	8.1	8.0
		12½	8.2	8.2	7.8
B	Experimental polyvinyl chloride copolymer film	7½	8.3	8.3	7.8
		10½	8.5	8.0	7.6
		12½	8.4	8.2	7.6
C	Experimental vinyl film	7½	8.5	8.4	8.3
		10½	8.7	8.4	8.0
		12½	8.4	8.4	8.0
D‡	Reference sample, vinyl chloride-vinylidene, chloride copolymer film	7½	9.0	9.0	9.0
		10½	9.0	8.6	9.0
		12½	8.8	9.0	9.0

*All materials shrinkable. For complete description of materials, see Table I.

†Scoring range 1 to 10, with 10 the optimum. A score of approximately 7.0 or higher indicated a rating of good or better. Scores for the light meat, dark meat, and skin of the fresh samples at the start of the experiment averaged 9.1, 9.3, 8.4, respectively.

‡Reference sample (Lot D) was not included in the statistical analysis as the judges as a group agreed upon the scores for these samples. All other samples were scored individually.

Packaging Materials

Bags made of the materials described in Table I were used. All the films used were shrinkable, having a normal shrinkage of 30 to 40 per cent when used within a few months after manufacture.

Packaging Methods

Each bird was packaged separately in a bag measuring approximately 10x18 in. Excess air was evacuated by use of standard commercial packaging equipment. After sealing with Vac-Tie fasteners, the bags were shrunk around the birds by dipping into water for 2 to 3 sec. at each of the following temperatures:

Lot	Temperatures
A	169° – 176°F. (76.1° – 80.0°C.)
B	169° – 176°F. (76.1° – 80.0°C.)
C	196° – 205°F. (91.1° – 96.1°C.)
D†	203° – 212°F. (95.0° – 100.0°C.)

†Reference samples.

Freezing And Storage

The birds were packaged and frozen on May 21, 1958. They were frozen in a blast freezer at -30° to -35°F. (-34.4° to -37.2°C.), and stored at approximately 0°F. (-17.8°C.).

Defrosting

The birds were thawed in their wrappings in a household refrigerator at 39° to 42°F. (3.9° to 5.6°C.) for about 53 hr. before cooking was started.

Appearance Evaluation

The birds were observed at each judging period, after thawing and prior to cooking, to determine whether there was evidence of undesirable changes in appearance.

Cooking

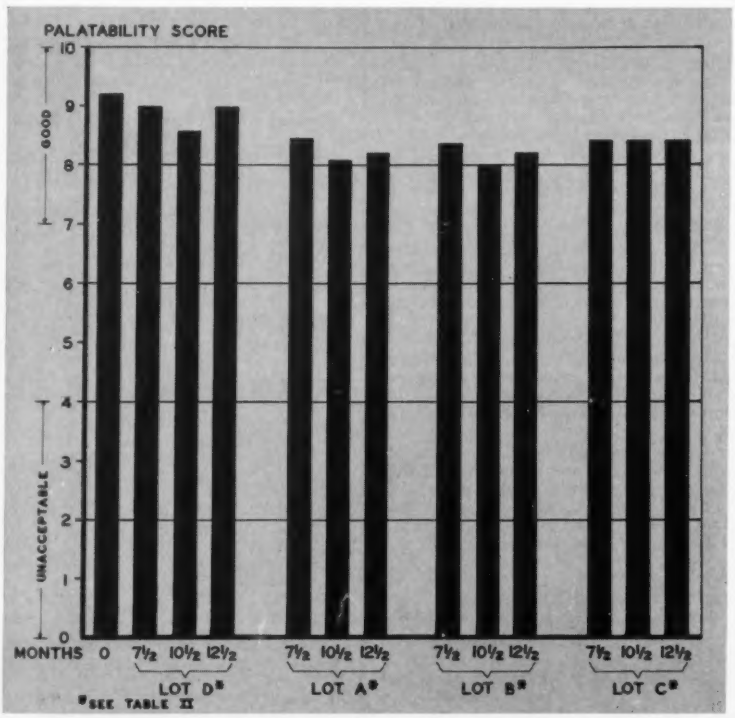
Two single-oven electric ranges of an identical model were used for roasting. Each bird was set on a rack in an aluminum pan measuring 13x9x2½ in.

Two pans were placed in each oven.

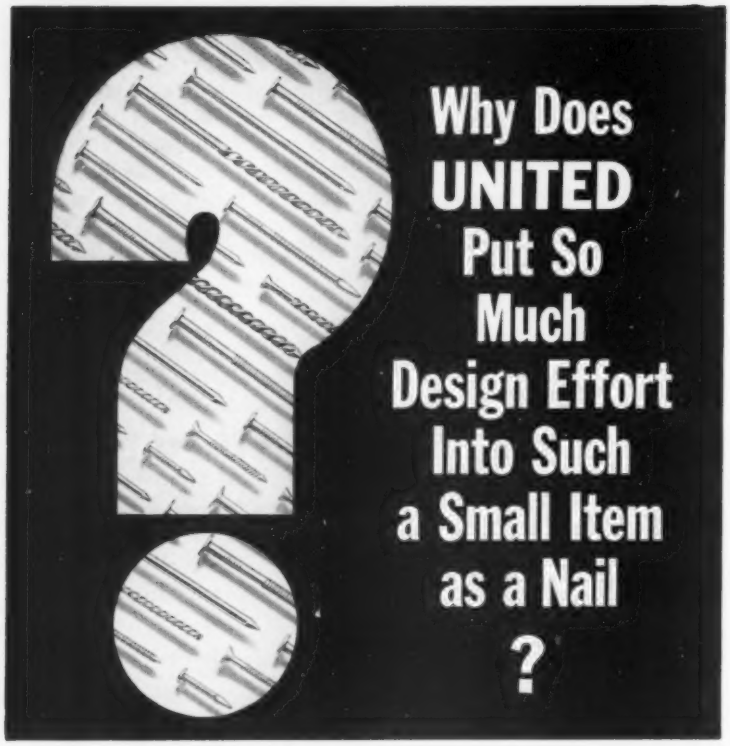
An oven temperature of 325°F. (163°C.) was used and each bird was cooked, uncovered, to a thigh temperature of 189° to 190°F. (87° to 88°C.), as measured by a thermometer. A numbered aluminum tag was inserted in each bird as a code for identification purposes.

Taste-Panel Evaluation

The panel of six experienced judges first agreed on an accept-



2 COMPARISON OF PALATABILITY SCORES maintained by frozen dark turkey meat stored at 0°F. for 7½, 10½ and 12½ months in four shrinkable vinyl film types (Lots A-D).



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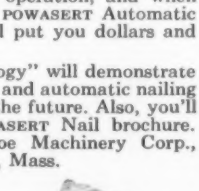

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able score for the reference sample. The coded samples then were scored individually. This technique provided each judge with a uniform basis of comparison for each taste panel.

At each taste panel, the judges sampled cuts from identical muscles. For example, from each turkey that was judged, and at each taste-panel session, Judge A received slice No. 1 of the breast muscle and slice No. 1 of the thigh muscle; Judge B received slice No. 2 of the breast muscle and slice No. 2 of the thigh muscle, and so on until each judge received all of the samples. Samples of the skin were allocated to the judges in a similar manner.

The maximum number of birds judged at any one time was three, in addition to a reference sample. This procedure was used in judging the samples at all the judging periods.

A scoring range of 1 to 10 was used, with 10 the optimum. Each judge was instructed that a score of 7, or higher, should be used to indicate a rating of good or better, and that a score of 4, or lower, should be used to indicate an unacceptable rating.

Analysis Of Taste-Panel Data

Four replicate samples were used for each treatment and storage period. A statistical analysis of variance was made of the taste-panel scores to determine the significance of differences, except for the reference samples which were not scored individually.

RESULTS

Palatability

There were no significant differences in the taste-panel scores (see Figs. 1 and 2, and Table II) among any of the samples of the white meat, dark meat, and skin, respectively, at any of the storage periods.

The palatability scores of the birds packaged in all three experimental types of vinyl film remained exceptionally high for storage periods up to 12½ mo.

James D. Winter received his B.S. and M.S. degrees from the University of Minnesota, where he was associate professor until he retired last summer. In 1957 he received the achievement award from the National Institute of Locker and Freezer Provisioners, of which he is an honorary member. Mr. Winter is a member of Gamma Sigma Delta, Sigma Xi, and a charter member of Phi Tau Sigma. A member of Institute of Food Technologists, he has authored a number of technical papers on packaging frozen foods.

Shirley R. Trantanella was graduated with B.S. and M.S. degrees in home economics from the University of Minnesota where she is now an instructor, department of horticulture. She is a member of Phi Upsilon Omicron, Sigma Delta Epsilon, and Mortar Board. Miss Trantanella also holds membership in American Home Economics Association and the Minnesota section of Institute of Food Technologists.

Milo H. Swanson holds B.S., M.S., and Ph.D. degrees from the University of Minnesota where he currently is associate professor in the department of poultry husbandry in charge of teaching and research in the field of poultry products technology. Dr. Swanson is a member of the Institute of Food Technologists, Poultry Science Association, Phi Tau Sigma, Sigma Xi, Gamma Alpha, and Gamma Sigma Delta.

Watson B. Ackart received his B.S., M.S. and Ph.D. degrees in bacteriology from Rutgers University. After six years with the research and development division of Merck & Company, Inc., he joined Union Carbide Plastics Company and is currently a development associate in the packaging division of the development department. Dr. Ackart is a member of Sigma Xi, Society of American Bacteriologists, and Institute of Food Technologists.

Appearance

No noticeable changes in appearance were observed among any of the birds after thawing and prior to cooking, at any time during this study. Similarly, no changes were noted in any of the packaging materials during any of the storage periods.

DISCUSSION

The results of this study are in agreement with previous packaging work with poultry at the Minnesota Agricultural Experiment Station *(10, 11)*, except that the palatability scores for turkey remained at an appreciably higher level for storage periods of 10½ to 11 mo. and longer, than in a previous comparable study *(11)* at the same storage temperature. Birds used for one of the lots in that latter work were packaged in the same film that was used for the reference samples (Lot D) in this study.

Permeability

Watts *(7)* and others have noted that biological variations among animals may affect the storage life of the frozen meat. This may have been a contributing factor. Packaging materials of relatively low water-vapor permeability were used in all of these studies. The results presented here are also in agreement with similar investigations elsewhere *(3,6,8)* with respect to packaging.

Although the oxygen permeability of these vinyl films at 0°F. (-17.8°C.) in contact with poultry is not known, the permeability data at 73.4°F. (23°C.) do show a marked variability. (See Table I.) The data from this work as well as from the other studies cited *(3,6,8,10,11)* do not show any con-

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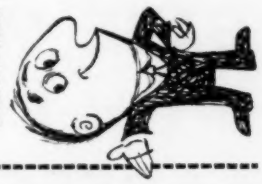

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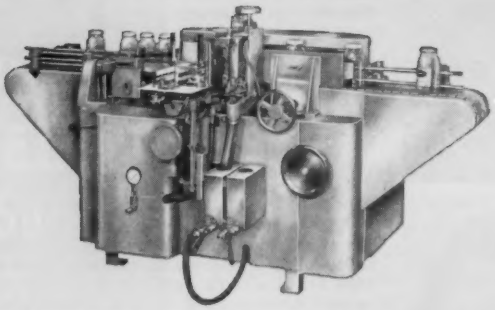

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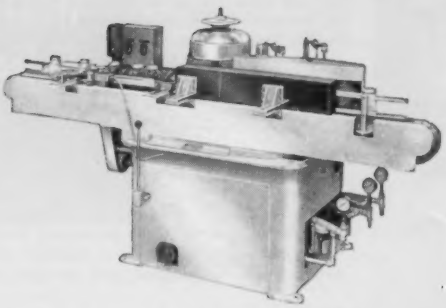

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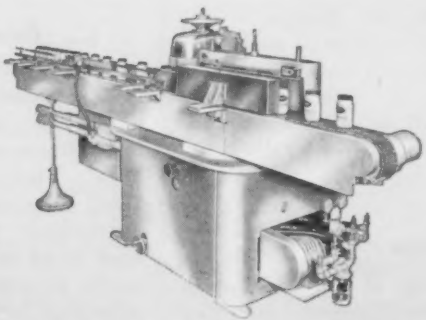

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sistent relationship between palatability scores and the relative oxygen permeability of the packaging materials, for the length of time and the storage temperatures used.

Palatability Scores

The palatability scores for the reference samples (Lot D) were higher than those for Lots A, B, and C at all storage periods, although all scores remained at a relatively high level. The scores for Lot D could not be included in the statistical analysis as the samples were not scored individually.

Klose, Pool, and Lineweaver *(4)*, and others have noted that deterioration in appearance of frozen turkeys during storage is associated with dehydration of the skin layer, and is principally influenced by the relative permeability of the package. No doubt this relationship explains the absence of noticeable changes in appearance among the birds during this investigation, since all the materials used have a low water-vapor transmission.

This study should not be interpreted as a warranty for the use of the packaging materials described. Similarly, no implications should be made regarding the use of these materials for food packaging applications under the Food Additives Amendment of 1958, inasmuch as experimental evidence required under the regulations is not yet available in every instance.

Acknowledgments

The authors are indebted to Miss Marlys Swanson, Miss Helen Berg and Mrs. Doris H. Oseid for assisting in the processing operation and the taste-panel appraisals. Thanks are due Mr. Milo Peterson for the statistical analysis.

Literature Cited

(1) Carlin, Agnes R., Pangborn, Rose Marie V., Owen, J. C., and Homeyer, P. G., "Effect of pretreatment and type of packaging materials on quality of frozen fried chicken," *Food Technology*, 13 (1959), pp. 557-560.

(2) Dubois, W. W., Tressler, D. K., and Fenton, Faith, "The effect of the rate of freezing and temperature of storage on the quality of frozen poultry," *Refrigeration Engineering*, 44 (1942), pp. 93-99.

(3) Klose, A. A., Hanson, H. L., and Lineweaver, Hans, "The freezing of turkey meat steaks," *Food Technology*, 4 (1950), pp. 71-74.

(4) Klose, A. A., Mecchi, E. P., and Hanson, H. L., "Use of antioxidants in the frozen storage of turkeys," *Food Technology*, 6 (1952), pp. 308-311.

(5) Klose, A. A., Pool, M. F., and Lineweaver, Hans, "Effect of fluctuating temperatures on frozen turkeys," *Food Technology*, 9 (1955), pp. 372-376.

(7) Watts, Betty M., "Oxidative rancidity and discoloration in meat," *Advances In Food Research*, 5 (1954), p. 2.

(8) Wills, Rena, Lowe, Belle, Slosberg, H., and Stewart, G. F., "Frozen storage of poultry," *Refrigeration Engineering*, 56 (1948), pp. 49-51.

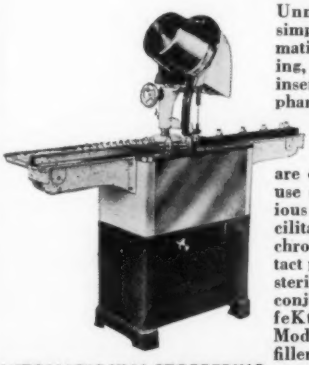
(9) Winter, J. D., and Trantanella, Shirley R., "Effect of packaging on palatability and weight loss of frozen pork and beef," *Food Technology*, 13 (1959), pp. 165-169.

(10) ———, "Packaging frozen broiler chicken thighs," *Quick Frozen Foods*, 20 (1957), No. 2, pp. 143, 157, 307.

(11) Winter, J. D., Trantanella, Shirley R., Swanson, Milo H., and Ackart, W. B., "Effect of packaging on palatability of frozen turkey fryer-roasters," PACKAGE ENGINEERING, 5 (1960), No. 8 (Aug.), p. 42.

(12) Woodroof, J. G., Atkinson, Ida, and Shelor, Ethyl, "Wrapping materials for frozen meats and poultry," *Food Freezing*, 2 (1947), pp. 274-277. (*End*)

COST SAVING AUTOMATIC STERILE VIAL STOPPERING



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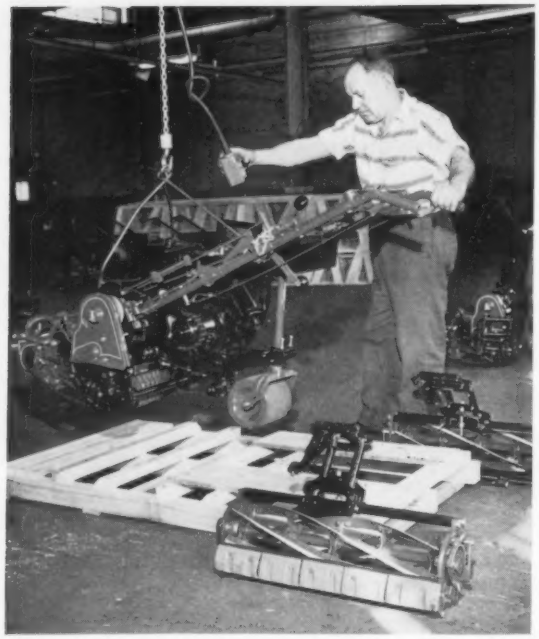
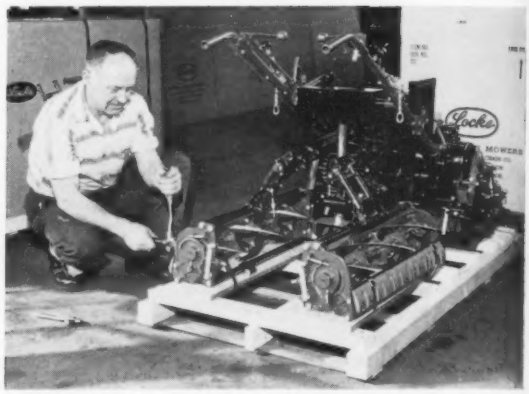


COMPLETELY ASSEMBLED Locke Triplex mower is lowered onto wooden skid. Mower, with three cutting units, is packaged with side cutting units removed. Re-assembly by dealer requires from 10 to 15 min. Disassembled mower in wooden crates took 90 min. to 2 hr.



SIDE UNITS of mower are fastened to skid. Tri-Wall Pak container (background) will be slipped over skid and package will be fastened by three steel straps. Entire operation takes about 24 min. as compared with almost 2 hr. required for former packaging operation.

Packaging without

Illustrative of today's increasing emphasis on unpacking or use-out features of containers, as well as on the packaging operation itself, the experience of Locke's lawn mower division shows how a switch in packaging saves time as well as dollars. Focal point: a container that permits packaging heavy-duty lawn mowers intact.

By using a packaging method which makes unnecessary the extensive disassembling of its mowers, The Locke Steel Chain Company's lawn mower division, Bridgeport, Connecticut manufacturer of heavy-duty power lawn mowers, is now getting a 25 per cent cut in packaging costs. But more important, it now packages two complete mowers each hour instead of less than one mower an hour—the former rate.

Further, a dealer receiving such a package can open it and have the mower ready to use in about 10 min. It previously took two hours for this unpackaging—because of having to put the disassembled mower back together again.

Locke's new package is a half-slotted (and perforated) box of 900-lb.-test, triple-wall corrugated board. The company uses two sizes of these containers: (1) 61¾x33x33 in., primarily for 70-in. mowers, and (2) 61¾x38x38 in., chiefly for 75-in. Triplex machines. Design of these containers was a joint project of Locke's operating and packaging management and Tri-Wall Containers, Inc., manufacturer of the boxes.

Mower Intact On Pallet

Use of the new corrugated boxes, instead of the wirebound wood

HALF-SLOTTED CONTAINER is placed over skid. In contrast to old package, no excelsior or other batting is used; package relies on 9/16-in. thick container material (approximately 8,000-lb. top to bottom compression). Cost per new container is about 25 per cent less.

COMPARATIVE SPACE taken up by formerly used wooden crate and by new Tri-Wall container is illustrated here. Before, mower was exposed to elements and to pilferage. New package has sharply reduced damage and has eliminated missing parts from packages.

product disassembly

boxes they replaced, depends on being able to secure a mower to a wood pallet without disassembling the mower. Using standard steel strapping tools and Gerrard-type clips, plant crew members secure a mower with 0.023x¾ in. steel strapping to a wood pallet which was designed for this particular operation by The Porter Box Company.

The plant has a central packaging area near its final inspection position where all mowers receive tests and final adjustments before packaging. Using an overhead tram rail crane to pick up each lawn mower, the one man assigned to do the packaging spots the mower on its pallet. He next slips the corrugated container over the mower and pallet.

Four wood strips, against which the box rests, keep the box from sliding off the pallet. Three steel straps hold the entire package together. Once the strapping goes into place, a fork-lift truck moves the completed package to the storage warehouse where the packaged lawn mowers are stacked three high pending shipment from the plant.

There are no inserts or supports within the package and the triple-wall corrugated board itself provides the stacking strength. Mowers do not receive surface coating or grease prior to packaging, but for export shipment, Locke uses a water-resistant triple-wall corrugated box.

Once one of these packages gets to a Locke dealer, only about 10 min. are needed to open the package and have the mower ready for use. The nearest thing to disassembling prior to packaging is taking off the gang mower side cutting units—which dealer servicemen quickly put back into place. Frequently, in unpacking a mower, they cut the steel straps while the unit is still on the tailgate of a truck, then simply remove the packaging and roll the mower off the tailgate. *(End)*

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4. Then, *mail* the card—we pay the postage. For your convenience, we have also included addresses of suppliers so that you may write directly for more information.

1—Excise Stamp Labeler

The Phin excise stamp labeling machine has been developed primarily for the distilling industry to apply government tax stamps across the tops of liquor bottles. The machine is supplied in two basic models: a standard model labels from 20 to 130 bottles/min. and the high-speed model from 80 to over 200 bottles/min. There is virtually no limitation on the size or shape of the containers which may be handled, the Canadian manufacturing firm says. The machine operates on sizes ranging from miniature to 40-oz. containers of round, flask, or irregular shapes. A combination vacuum and mechanical gripping mechanism feeds the stamps, and a variety of adhesives may be used. A heated glue-pot with thermostatic control can be supplied if hot-melt adhesive is used. According to the maker, rigid control is used as the stamp is applied to the container to provide accurate registration and the machine will compensate for variations in the glass and caps. Continuously traveling pressure pads, molded to the actual contour of the bottle cap and neck, form the stamp down the neck of the bottle, then compress the stamp. Compression is maintained on the stamp for a full 2½ cycles of machine operation to insure adhesion under varying conditions. An automatic registering unit may be added to rotate round bottles to the correct position for receiving the stamps. The unit will accommodate both symmetrical and offset stamps on miniature and the larger sizes of bottles. Special emphasis in the design of the machine was placed on quick changeover from one bottle size to another, and the manufacturer claims that the smooth operation of the machine is due to its straight line, continuous-motion design. For more information write: Package Machinery Co., Dept. PE, W. Chestnut St., East Longmeadow, Mass., or *circle number on card.*

2—Suspension System

Designed to minimize and distribute impact shock uniformly over the entire surface of the package, this new suspension system for hard-to-pack objects provides better protection at reduced costs, the manufacturer says. The system employs a simple interlacing which suspends an item in a web of fabric strips made from the 18-oz.

(Turn page)

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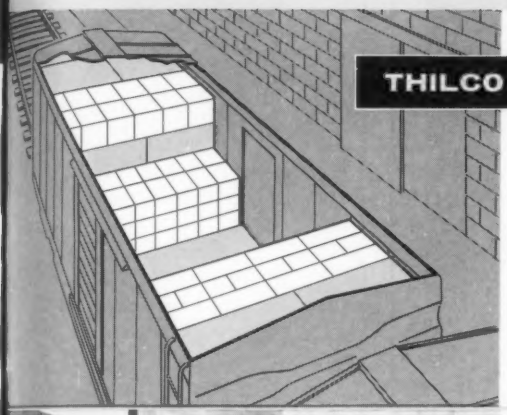

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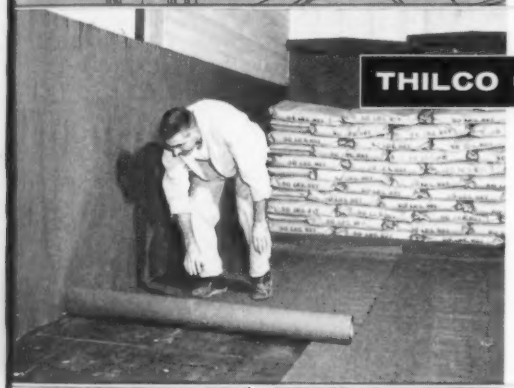

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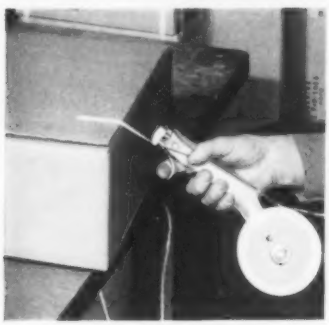

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It's a rugged pressure-sensitive tape of outstanding performance. Bi-directionally reinforced with woven glass webbing, it has an extremely high tensile strength and can safely handle heavy duty packing and strapping jobs with less tape, lower cost. Super Flextron is waterproof and is protected with a transparent film. Resists aging, oils, solvents and stains. Quick to apply and simple to peel off, it speeds up your packaging and shipping operations.

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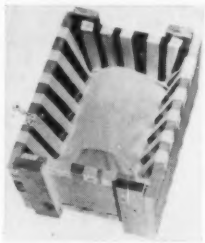
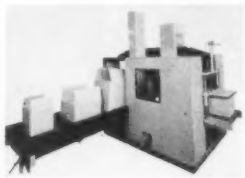
material called Herculite 80. Tough industrial nylon (similar to that used for tires) is com-



bined with two layers of polyvinyl chloride plastic to form the strong, waterproof fabric. The tear strength of the material exceeds 100 lb., the maker states. For more information write: Herculite Protective Fabrics, Dept. PE, 661 Fourth St., Newark 7, N.J., or *circle number on card.*

3—Case Sealer

A closing machine which adjusts automatically to seal corrugated containers of varying



sizes has been introduced. Called the Union-Camp K & M Randomatic case sealer, the machine operates at speeds up to 12 cases/min. The manufacturer says that this machine is capable of sealing the top and bottom of a large box (up to 18x20x30 in.) and then regulate itself to close a small box (4x8x10 in.) which may be following on the line. The machine applies a thermoplastic sealant which sets in less than 3 sec. and the method of applying the sealant eliminates the need for the boxes to pass through the usual long compression section, the producer claims. The approximate floor space required for the unit is 5x7 ft. For more information write: Union Bag-Camp Paper Corp., Dept.

PE, 233 Broadway, New York 7, N.Y., or *circle number on card.*

4—Cake Pan

The development of a bake-in, sell-in pan package for cakes, called Pak-A-Pan, has been told.

The new package is a tapered foil-lined tray with raised corners and a foil-laminated rectangular center post. Bakers deposit batter directly in the pan package; the cake is baked, film wrapped, and sold right in the same package. The pan eliminates the de-panning operation and the overwrapped cake is protected on five sides instead of only one as when a U-board or low tray is used. For more information write: Marathon, A Div. of American Can Co., Dept. PE, Menasha, Wis., or *circle number on card.*

5—Latex Coating

A new vinylidene-chloride coating for paperboard packages and flexible films has been announced. The new coating, known as Vylan, is a latex-type material using water as the only solvent, thus eliminating fire hazards from the coating area. According to the developer, the coatings are characterized by low water-vapor transmission and resistance to oils, fats, lactic acid, and food staining. The coating wets and adheres to dense substrates such as Mylar polyester film, glassine, and cellulose acetate. It may be heat sealed or bonded using Interchemical adhesives designed for the purpose. For more information write: Interchemical Corp., Finishes Div., Dept. PE, 224 Mc-

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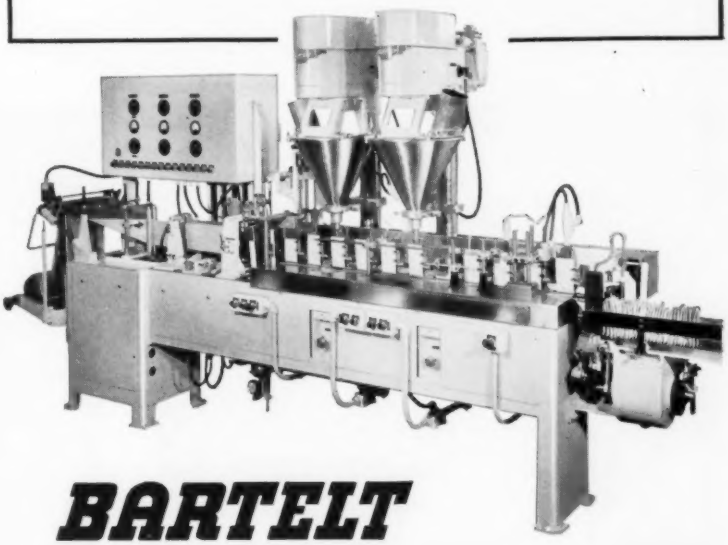

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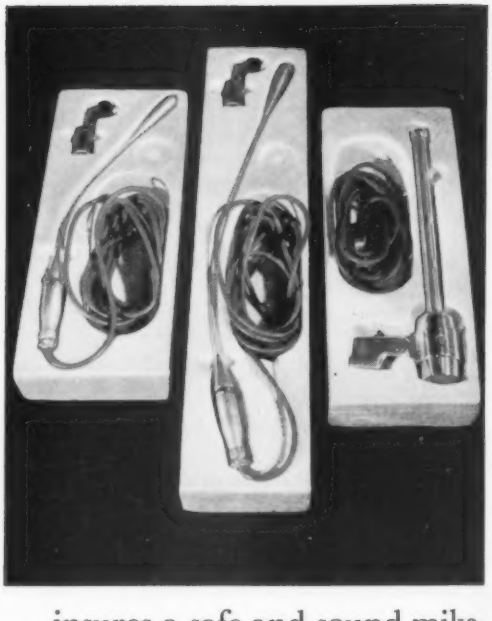
DYLITE protects acid bottles.

This DYLITE package gave the Allied Chemical Corporation better, lower-cost protection than was possible with previous packaging materials. The octagonal-molded block cushions the 13-gallon acid carboys, it protects them from vibration and impact damage. The package is completely ship-safe. Around the plastic package is a wooden shell bound by wire. The container is lighter, takes up less space, and saves packaging and shipping costs. At the 1960 Industrial Packaging Competition sponsored by the Society of Packaging and Handling Engineers, this new DYLITE package won the "best of show" award. *Molded by General Chemical Division, Allied Chemical Corporation.*



. . . insures a safe and sound mike.

Because of its unusual shape and sensitive parts, this microphone presented a definite packaging problem. Shock-resistant DYLITE was chosen because it molds easily, to *any* size or shape. The DYLITE is custom-molded to tightly fit the contours of the instrument. The microphone is held firmly in place, safe from shipping damage. DYLITE offers complete packaging protection for any sensitive, delicate instrument and its component parts. *Molded by Formex Corporation of Elkhart, Indiana. Microphone manufactured by Electro-Voice, Inc., of Buchanan, Michigan.*

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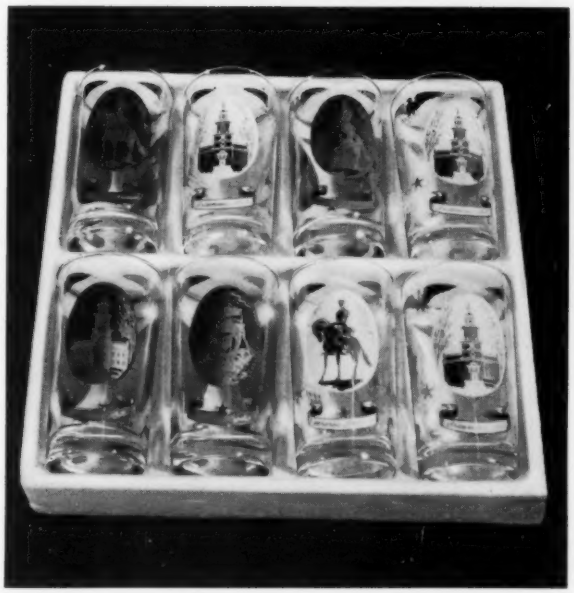

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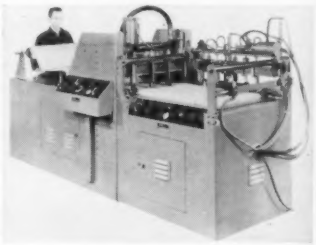
6—Vacuum Former/Slitter

A new plastic vacuum-forming machine, called Blist-O-Matic, incorporates automatic thermo-



forming and slitting to size. Items such as ice cream containers, lids, portion servers, plastic blisters, and the like can be formed and assembled on the machine. The manufacturer claims it is the only automatic machine that provides for complete and automatic slitting at speeds of 6 to 10 cycles/min. It is capable of forming and trimming items up to 5½ in. high. Full mold area is 24x32 in., minimum size is 1-in. cube. Products may be thermoformed by the plug assist, drape, cavity forming, and air-form methods. For more information write: Comet Industries, Dept. PE, 9805 Franklin Ave., Franklin Park, Ill., or *circle number on card.*

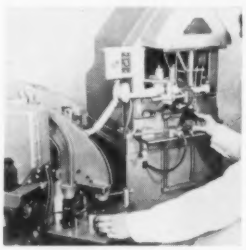
7—Polyethylene-Saran Film

A new polyethylene-saran combination film is being produced by the Plastoid Corp. The new material consists of polyethylene film extruded from Petrothene 200 which is coated with a 0.0002-in. layer of saran. Stock gauges for the material range from 0.001 to 0.0045 in. The developer claims the packaging material has the economy and machinability of polyethylene combined with the barrier properties of saran. It is a flexible packaging material whose barrier properties and other food protection qualities approach

those of the metal can, the maker states. For more information write: U. S. Industrial Chemicals Co., Dept. PE, 99 Park Ave., New York 16, N.Y., or *circle number on card.*

8—Cottoning Machine

The Model 52 semiautomatic cottoning machine has been designed for use in small pharma-



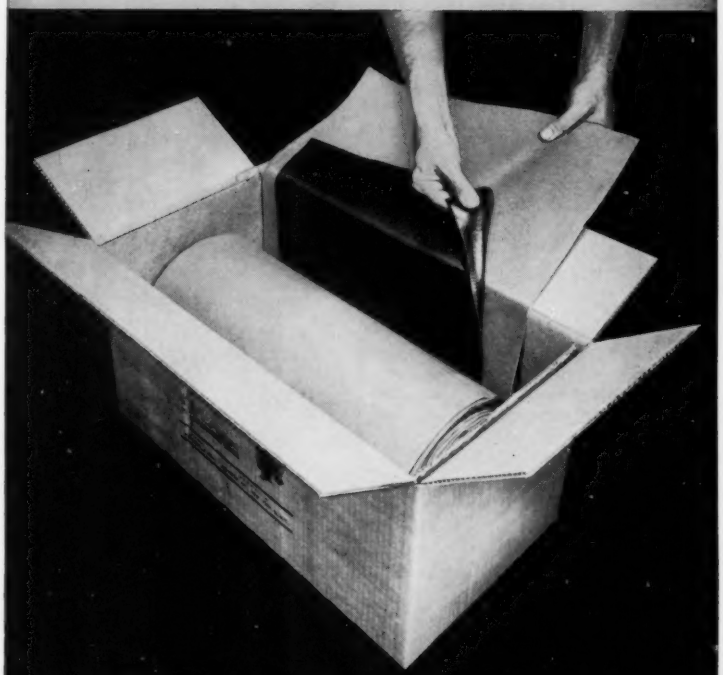
ceutical companies where production runs are short and a great degree of flexibility is required. When an operator places a bottle in position, the machine automatically goes through one cycle, cutting and inserting the cotton. The speed of the machine is dependent upon the rate bottles are placed and removed from the cottoning station. The machine will handle any weight of coil cotton up through 16 gm./yd. and will insert in lengths of 3, 4, 5¼, and 7 in. For more information write: The Lakso Co., Inc., Dept. PE, 47 Ashby State Rd., Fitchburg, Mass., or *circle number on card.*

9—Milk Carton

A new half-gallon milk carton coated with polyethylene was recently shown. The one-piece

carton is coated inside and out with polyethylene to provide

2 useful services...



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Stop costly overweights and save on packaging labor with the right model of Gump Packaging Equipment. Speedy, highly accurate Bar-Nun "Auto-Check" and Edtbauer-Duplex Weighers (illustrated) for manual lines. Automatic Bar-Nun Bag Packaging Equipment, and Can, Jar or Carton Lines save on packaging labor as well as product. Extremely dependable operation—accuracy guaranteed.

Choose equipment to suit the job. Write for recommendations, without obligation. Tell us the material, weight, container, and production requirements.

B. F. GUMP CO.
1346 S. Cicero Ave., Chicago 50, Ill.

maximum protection for the milk and eliminate the problems inherent in wax-coated cartons, the producer states. The flat-surface construction feature of the container's top permits stacking. Other characteristics consist of an easy-opening and pouring feature. For more information write: American Can Co., Dept. PE, 100 Park Ave., New York 17, N.Y., or *circle number on card.*

10—Reinforced Tape

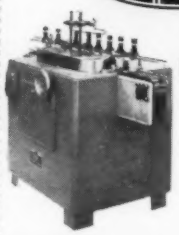
A new rayon-reinforced, acetate film adhesive tape has been introduced for a variety of packaging and bundling purposes. Known as C-460 strapping tape, it has a backing of 0.0015-in. cellulose acetate transparent film reinforced with longitudinal rayon monofilaments. It has a rubber-based, pressure-sensitive adhesive. According to the maker, the tape has a tensile strength of 210 lb./in. width, impact strength of 100 in.-lb./in., an elongation factor of 14 per cent, and will withstand temperature extremes of 160° to -30°F. For more information write: Arno Adhesive Tapes, Inc., Dept. PE, P.O. Box 301, Michigan City, Ind., or *circle number on card.*

11—Vibratory Feeder

A new type of pneumatic vibratory feeder, called the Navco feeder, is being manufactured. The feeder uses Navco's one-piece long stroke air vibrator and a solenoid valve controls air to the vibrator and gives a positive cut-off to eliminate dribble from the feeder. In a typical installation, the unit feeds powdered asphalt (⅛ in. minus) into a pulverizer at the rate of approximately 12,000 lb./hr. using a 6° angle of slope. Operating air pressure is 35 lb./sq. in. The feeder is recommended for cereals, foodstuffs, chemicals, and other types of bulk materials. For more information write: National Air Vibrator Co., Dept. PE, 435

MARKING EQUIPMENT FOR THE PACKAGING INDUSTRY

COZZONE

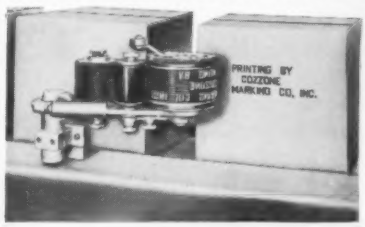


BOT-M-CODER

Used for code dating container bottoms — aerosols, cans, jars, bottles ...speeds up to 400 containers per minute.

MICRO-PRINTER

Versatile machine, adaptable to conveyors, cartoners, sealers, etc.; friction or power drive. 50 models available.



MICRO-CODER

Easily installed on all kinds of packaging or processing equipment. Imprints top, bottom or sides of wide range of packaging sizes and materials.

Also available:
SIDE PRINTERS
TOP-N-BOTTOM CODERS
INK & TYPE FOR ALL MODELS

Inquiries invited for custom models to meet your specifications.

COZZONE MARKING CO., INC.
18 Nuttman St., Newark 1, N. J.
Precision Equipment for Nearly Half a Century

Circle No. 245 on Card

Circle No. 246 on Card

PAPER ART CO., INC. GOES 100% TO POLYETHYLENE FILM, IMPROVES PACKAGES, AND CUTS PRODUCTION COSTS

Paper Art Co., Inc. of Indianapolis, Indiana, has cut production costs substantially with a modernized production and packaging system using cast polyethylene film. According to the company, savings in packaging costs for the first quarter of 1960 averaged 47% as compared with the same period in 1959, while total production increased 5%.

The high-clarity, high-gloss film gives the company's packages a sparkling, attractive appearance . . . allows designs and colors of its plates, cups, napkins, table cloths and 400-odd other paper products to show through clearly. And polyethylene's excellent aging and strength characteristics have eliminated problems of embrittlement and tearing . . . improved shelf life of packaged products.

The film, which is cast from PETROTHENE® polyethylene supplied by U. S. Industrial Chemicals Co., makes possible a number of economies. With polyethylene, six "See-Safe" semi-automatic packaging machines, designed for handling this flexible film, can turn out 45,000 packages per 8-hour shift, replacing 11 packaging machines formerly used to do the same job. Both labor and materials costs are cut. Returns due to package breakage, too, are reduced, thanks to the tough long lasting polyethylene films.

By using polyethylene, you can enjoy the benefits of strong, low-cost, transparent packaging. Up-to-date packaging machinery lets you take full advantage of polyethylene's characteristics . . . turn out attractive packages of outstanding durability at high rates. For more information on cast polyethylene film made from PETROTHENE resin, or on packaging machinery such as shown above, write to the address below.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

FLUIDICS* AT WORK

From mite to mighty... fill them all with Pfaudler fillers

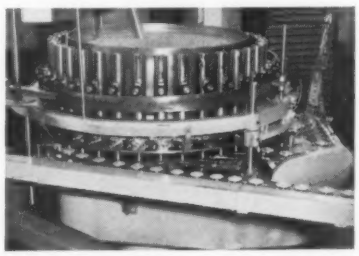
Whatever size your container . . . #211 x 101.5 can or gallon; whatever your product . . . a spread like deviled ham or lightly fluid antifreeze, a Pfaudler rotary piston filler will handle it for you fast, at low cost and without spill.

The Wm. Underwood Co. at Watertown, Massachusetts, uses a Pfaudler RP-35 filler to package over 500 cans of viscous deviled ham a minute. Accuracy is held to ±1/10 fluid ounce—thus cans come off the filler clean.

A Southwestern petroleum manufacturer fills antifreeze at 60 to 80 *gallon* cans a minute using a seven-station Pfaudler machine. Similar results are common in citrus, soup, syrup and evaporated milk plants.

Simplicity of design is the all-important characteristic of Pfaudler fillers. Low maintenance—only four primary wearing parts. Fast cleaning—one man does a thorough job in just 30 minutes. High accuracy—precision adjustment even at full operating speeds. No product loss . . . positive acting no can-no fill mechanism.

For more information, write to our Pfaudler Division, Dept. PE-11. Rochester 3, New York. Or contact your Pfaudler representative.



Underwood Deviled Ham is filled at a rate of over 500 cpm, using this Pfaudler 35-station rotary piston filler.

*FLUIDICS is the Pfaudler Permutit program that integrates knowledge, equipment and experience in solving problems involving fluids.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

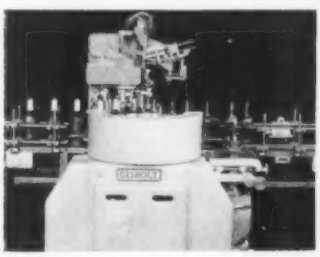
Literary Rd., Cleveland 13, Ohio, or *circle number on card.*

12—Aluminum Coated Board

A new grade of boxboard has been designed to mask oils and stains which penetrate the outer surface of a package from within. The new paperboard is coated with aluminum pigment (supplied by Aluminum Co. of America) and provides a silver-colored, smooth exterior finish. According to the manufacturer, tests involving contact with oils, turpentine, and soap showed no visual penetration of the exterior surface. Printing characteristics of the silver-toned paperboard indicate high receptivity to all normal printing inks, producing impressions equally well on offset and letter press, the maker states. The company also asserts that its metallic-coated product displays the same high degree of scoring ease as that of commonly used paperboards. For more information write: Weyerhaeuser Co., Boxboard and Folding Carton Div., Dept. PE, 919 N. Michigan Ave., Chicago 11, Ill., or *circle number on card.*

13—Neck-Wrap Labeler

Announced is a new heat-seal labeling machine called the Masterline Neckwrap labeler.



The machine was designed to take advantage of new developments in thermoplastic adhesives and to eliminate use of liquid glues. It will apply paper wrap-around labels to the necks of bottles automatically at speeds up to 180 bottles/min. The delayed-action type heat-seal la-

DU PONT

PACKAGING TRENDS

Data of Interest to Package Engineers from Du Pont

Use of ALATHON® solves unique molding and decorative problems for Fuller Brush

Formulations of ALATHON offer outstanding properties for molding applications

Because no single formulation of polyethylene resins can ideally suit *every* molded packaging application, Du Pont offers a variety of ALATHON resins, each tailored to a specific need. For various molded applications, recommended formulations range in density from 0.915 to 0.954 and in melt indices from 1.9 to 23.0.

As a result, packaging engineers can specify ALATHON resins that offer varying degrees of stiffness and flexibility, degrees of impermeability, of gloss and of transparency, as well as resistance to environmental stress cracking and resistance to heat distortion. Base resins with added slip are also available. And molding characteristics can be chosen to meet a specific production problem.

Consult your supplier for more information on the basic characteristics of ALATHON polyethylene resins, and how these characteristics affect properties for your particular end use. Or mail the coupon at right.

The engineering design of these blow-molded squeeze bottles for a new line of Fuller Brush baby products takes advantage of a variety of properties offered by Du Pont ALATHON polyethylene resins. Easily blow-molded in intricate shapes, ALATHON meets the requirements for these attractive, re-usable bottles for baby shampoo, talcum powder and lotion. The basic color is molded in with the two additional colors spray-painted on the bottles. The dimensional stability of ALATHON also permits the maintenance of close tolerances required for the closures. The complete units are, of course, completely safe for children.

This is another example of the solution of complex packaging problems made possible by good design and processing techniques and ALATHON polyethylene resins. Thus, the next time *you* have a problem involving economical, high-speed production, complex shapes, integral color, or adequate product protection, consider the variety of formulations of ALATHON at your disposal. For more information and for help in selecting the ALATHON resin best suited to your particular needs, mail the coupon below.

These new Fuller Brush baby-product bottles are blow-molded by Wheaton Plastics, Inc., Mays Landing, N. J. Shaker closure by Wheaton. Other closures by Polytop Corp., Hingham, Mass. All for The Fuller Brush Co., Hartford, Conn.

POLYOLEFINS DIVISION

POLYCHEMICALS DEPARTMENT

DU PONT

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Better Things for Better Living...*through Chemistry*

E. I. du Pont de Nemours & Co. (Inc.), Department PA-1
Room 2507A, Nemours Building, Wilmington 98, Delaware
Please send me a copy of "New Dimensions in Packaging". A-17291

*Name*_____ *Position*_____

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*City*_____ *State*_____

In Canada: Du Pont of Canada Limited, P. O. Box 660, Montreal, Quebec.

Reduce packaging and shipping costs with

MID-STATES® fast, trouble-free STITCHING WIRE

Boxes and shipping containers of fibre or corrugated materials can be stitched or stapled faster, more dependably with free-flowing Mid-States Stitching Wire. Never clogs stitching head because it has no raw edges; never flakes. Comes in 5, 10, 25 and 50-lb. coils.

Furnished flat and shaped in all standard sizes (special sizes available), with galvanized or coppered finish.

5-lb. Spools Packed 10 Spools per carton.

10-lb. Spools Packed 6 spools per carton.

25-lb. Spools Packed 4 spools per carton.

50-lb. Spools Packed 20 spools per pallet.

STITCHING MACHINES in a variety of models also available from Mid-States. Head sizes range from 12 to 36 in.; capacities up to 375-point (⅜") board; with Electric Solenoid Trip if desired. Lease or sale agreements available.

ROUND STEEL STRAPPING and MACHINES

For binding and reinforcing bales, bundles or boxes.

Strapping in wide variety of gauges, galvanized or coppered, in quantities from 5 to 500 pounds.

Machines on lease or sale agreements.

WRITE today for further details, catalog sheets, samples and prices.

MID-STATES STEEL & WIRE COMPANY

CRAWFORDSVILLE, INDIANA · JACKSONVILLE, FLORIDA

bels are used with the heat applied directly to the adhesive side, permitting a wide choice of papers, foils, inks, and embossings, the manufacturer asserts. Positioning control has been incorporated into the machine so that when a bottle neck is off-vertical, the unit automatically compensates for it. Types of glass containers handled include ½ pt. to 1 qt. round, square, or flask. Maximum flask width is 4½ in., maximum round diameter is 3¾ in., and maximum height is 13 in. For more information write: Gisholt Machine Co., Dept. PE, 1245 E. Washington Ave., Madison 10, Wis., or *circle number on card.*

14—Label Dispenser

An automatic dispenser which permits feeding of up to 2,000 labels/hr. has been introduced by the manufacturer of "ablestik" pressure-sensitive labels. The unit strips the backing sheet from pressure-sensitive labels and feeds them ready for application. Operation is through a positive-working photoelectric eye unit which automatically dispenses one label at a time as soon as a label is removed. Labels up to 6½ in. wide and any length can be accommodated by the dispenser. For more information write: Allen Hollander Co., Inc., Dept. PE, 385 Gerard Ave., New York 51, N.Y., or *circle number on card.*

15—Cushioning Material

New Safe-T Flo-Pak cushioning material is composed of resilient, hollow, cylindrical paper tubes measuring ¾ in. long by ¼ in. in diameter. The material is poured into a container to surround and suspend an object. The manufacturer claims that it minimizes the need for skilled labor, reduces need for inventory of assorted packaging materials, is clean, odorless, and reusable. The protective cushioning qualities of the material are not affected by temperature

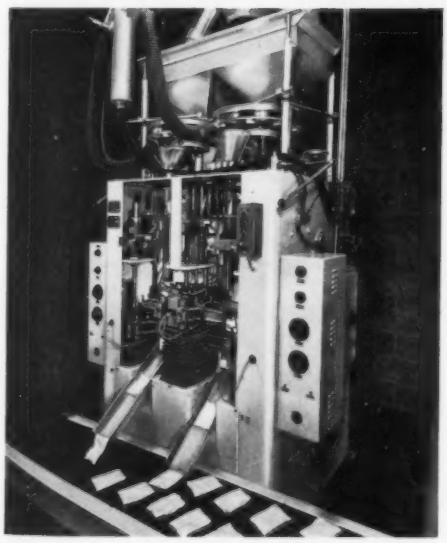
Yesterday PVA Film Was Hard to Handle

Today a standard 2-tube Robo-Wrap machine teamed with a Lynch volumetric feeder makes PVA as sure and easy to handle as any other film.

At Acepak, Inc. in Chicago, Robo-Wrap is sending the world's leading detergent, soap powder and chemical brands to market at a rate of 110 to 120 PVA packages per minute!

How does a packaging machine designed for other films *also* handle PVA?

Acepak, Inc. looks to Lynch Robo-Wrap... to handle PVA as easily as any other material.



Robo-Wrap Model 201-V with Lynch volumetric feeder at Acepak, Inc., Chicago, Ill.

"Robo-Wrap's unique hand-over-hand action reduces machine speed—lengthens dwell time—permits lower temperatures," says Mr. Arthur Rothschild, President, Acepak, Inc.

The result: less cost per package . . . not enough downtime on volume production runs to worry about, because Robo-Wrap's hand-over-hand action holds jaws in sealing position longer, thus preventing torn roll stock. Robo-Wrap automatically forms, fills and seals pouches and pillow-packs—plain or printed—and runs with or without electric eye registration.

To keep up with demand for PVA packaging, Acepak, Inc. has ordered additional Robo-Wraps.

Whether you package liquids, powders, solids or granules . . . in poly, cello, PVA, plastic or laminate pillow packs . . . look to Lynch for automated systems that cut costs *all along the line.*

Lynch engineers will help plan your handling and packaging system without obligation.

Volumetric Feeders specially designed for trouble-free flow of uniform density products.

Manufacturing Engineers of automatic processing equipment in the glass, packaging, plastic and other industries.

LEADERS LOOK TO LYNCH—for machines that package almost everything

LYNCH CORPORATION • ANDERSON, INDIANA

ATLANTA • CHICAGO • SAN FRANCISCO • ENGLEWOOD, N. J.

LYNCH
CORPORATION
Anderson, Indiana

stops sticking

speeds packaging

cuts cleanup

saves money

SLIPICONE

silicone release agent

"wherever sticking is a problem"

SLIPICONE® goes on in a breeze . . . makes any surface slick . . . keeps adhesives, packaging materials and foods from sticking or piling up where you don't want them . . . keeps equipment cleaner, more sanitary . . . assures neat, attractive packages and labels.

SLIPICONE is nontoxic . . . safe to use in contact with all foods. Stays effective over a broad temperature range . . . from 40 below to 400 above zero!

SPRAY OR WIPE IT ON

SLIPICONE comes in four handy sizes: 12 oz. aerosol can; 2 and 8 oz. tubes; 10 lb. can . . . all economical to use.

Get SLIPICONE from your paper merchant, packaging materials supplier, or write Dept. 6413 for name of nearest distributor.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

or climatic conditions and the resinous coating eliminates migration of packaged items during shipping and handling, the maker states. For more information write: Safe-T Flo-Pak, Dept. PE, 2500 Middlefield Rd., Redwood City, Calif., or *circle number on card.*

16—Batch Counters

Four models of the Gyra electronic batch counters have recently been introduced. Model DC-30 divides the counts by ten. Models BC-40, BC-50, and BC-60 count preset numbers from 2 to 16, 2 to 256, and 2 to 1,024 respectively. When the preset number of parts is reached, a relay switch is tripped which actuates any electrically controlled function, and then automatically resets to zero for the next count. According to the maker, maximum speed of count is 6,000 units/min. on all four models. A choice of probes is available in either photo cell or contact types. For more information write: Gyra Electronics Corp., Dept. PE, P.O. Box 184, La Grange, Ill., or *circle number on card.*

17—Bagging Machine

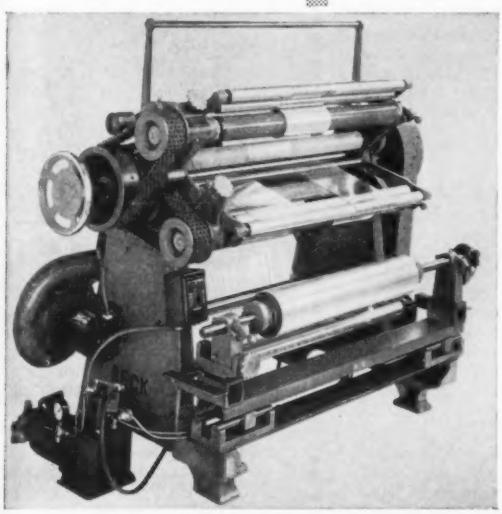
A new semiautomatic bagging machine has been added to the line of Speedy bag packagers and is called the Scott Special. The unit is recommended for loading nested cups and similar items into paper, cellophane, or polyethylene bags. The machine incorporates a baffled air principle of operation and is equipped with pivoted product guides and auxiliary bag trays which hold bags up to 30 in. in length in place. Bags are opened automatically at speeds in excess of 20 bags/min. The machine is portable, self-contained, and generates its own air source. For more information write: Errich International Corp., Dept. PE, 35 W. 36th St., New York 18, N.Y., or *circle number on card.* *(End)*

For slitting lightweight, stretchy films

the difference between adequacy... and

ACCURACY

is here



BECK RAZOR BLADE SLITTER & REWINDER

Fast razor-edge slitting . . . neat, firmly rewound rolls . . . reduced waste . . . low maintenance! That's how the Beck Slitter provides the difference between just adequate slitting and accurate, economical slitting on polyethelenes, plastics and other fine materials. And, in today's ever-tightening cost-squeeze *you* can't afford anything less. For more information on the Beck Slitter, write telling us the material you cut.

charles **BECK MACHINE** corporation

SHEET CUTTERS
SLITTERS
SHEETER-PRINTER
CAN IMPRINTER
BOX LIDDER
TEAR-STRIPPER

70 church road, king of prussia, pennsylvania

JIFFY PADDED SHIPPING BAGS

SO EASY TO PACK!

JIFFY PADDED SHIPPING BAG — the all-in-one shipping unit — provides cushioning, moisture-resistance, insulation, and heavy duty protection. Saves labor, time and materials. Handy tear-tape opener for easy removal of contents.

SO SIMPLE TO OPEN!

Send for your FREE SAMPLES today!

Jiffy **JIFFY MANUFACTURING COMPANY**
360 Florence Avenue Hillside, N. J.

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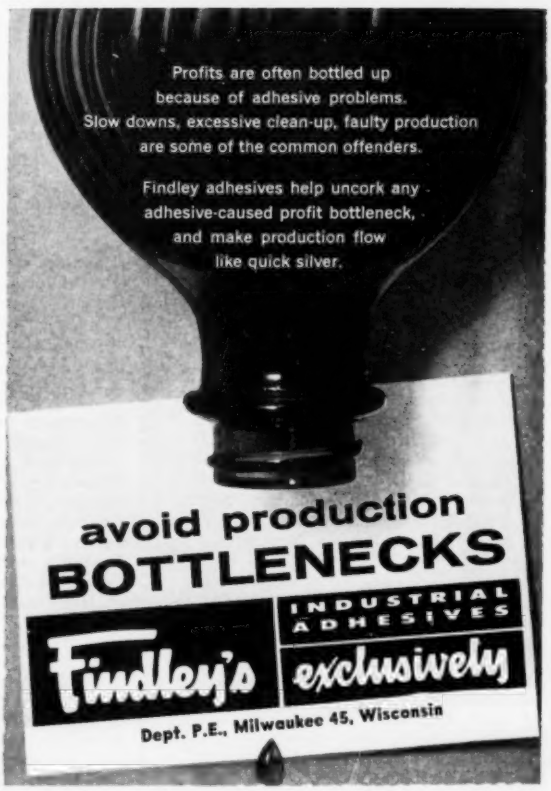

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4. Then, *mail* the card—we pay the postage.

For your convenience, we have also included addresses of suppliers so that you may write directly for more information.

101—Packaging Adhesives

A new 16-page adhesives application guide, "Packaging and Paper Converting Adhesives Catalog," is available. Technical information is organized by type of packaging and converting operation and includes physical and chemical properties. For a copy of this guide write: Armour Alliance Industries, Dept. PE, 16123 Armour St., N.E., Alliance, Ohio, or *circle number on card.*

102—Uncasing Equipment

A 6-page brochure discusses uncasing problems and the Atkron Dumore universal uncasing equipment which handles standard and nonstandard cases, carry-home cartons, and bottles including 4-flap and open cases. For this brochure write: Atkron, Inc., Dept. PE, P.O. Box 311, Cuyahoga Falls, Ohio, or *circle number on card.*

103—Laminates

Offered are swatch books of metallized printed Mylar which have been laminated to vinyl, cotton, and latex-impregnated paper. For more information write: Lamart Corp., Dept. PE, 16 Richmond St., Clifton, N.J., or *circle number on card.*

104—Liquid Fillers

Semiautomatic vacuum and gravity liquid filling machines are presented in a brochure which includes illustrations, diagrams, and specifications of several models. For more information write: MRM Co., Inc., Dept. PE, 191 Berry St., Brooklyn 11, N.Y., or *circle number on card.*

105—Mounting Systems

Bulletin No. 716, "Shipping Container Mounting Systems," contains 16 pages describing how engineered protection against shipping and handling damage can be achieved with elastomeric mounting systems. For more information write: Lord Mfg. Co., Dept. PE, Erie, Pa., or *circle number on card.*

106—Coupon Placer

A 4-page folder (Bulletin No. 900-1) describes and illustrates a standard model of the coupon or insert placing machine which places booklets, premiums, and other light, flat objects inside a carton. For more information write: Thiele Packaging Machinery Co., Dept. PE, 1000 Berry Ave., St. Paul 14, Minn., or *circle number on card.*

107—Glass Containers

A catalog supplement, SP-64, has recently been released on Kimble's line of glass and associated products. Featured in the 108-page book are such new items as a complete range of boiling and distilling flasks. For more information write: Kimble Glass Co., Owens-Illinois, Dept. PE, Toledo 1, Ohio, or *circle number on card.*

108—Aerosol Crimpers

In Circulars No. 26, 27, and 28, aerosol crimping equipment is illustrated and features are discussed. Diagramatic drawings of a non-adjustable and adjustable universal crimping head are included. For more information write: John R. Nalbach Engineering Co., Dept. PE, 6139 Ogden Ave., Chicago 50, Ill., or *circle number on card.*

109—Cushioned Containers

Information is available on Kudl-Pak protective containers. A molded plastic case is filled with polyurethane foam cut into hill-and-valley surfaces to provide protection of products in varied sizes and shapes. For more information write: Navan Products, Inc., Dept. PE, 900 N. Sepulveda Blvd., El Segundo, Calif., or *circle number on card.*

110—Portable Fillers

A 24-page illustrated catalog recently issued lists the various models of Filamatic portable liquid fillers available. Also shown are positive displacement, piston-type pump assemblies for dispensing free-flowing liquids, viscous materials, or dairy products. For more information write: National Instrument Co., Inc., Dept. PE, 4123 Fordleigh Rd., Baltimore 15, Md., or *circle number on card.*

111—Stenciling Costs

A stenciling cost analysis chart is available. Calculations of the total cost of labor, stencil, ink per order and per carton are made. For more information write: Weber Marking Systems, Inc., Dept. PE, Weber Industrial Park, Mount Prospect, Ill., or *circle number on card.*

112—Aluminum Containers

Catalog E59 illustrates and describes how aluminum containers are constructed in a modular-fashion packaging system to provide lightweight, re-usable shipping and storage containers. For more information write: Zero Mfg. Co., Dept. PE, 1121 Chestnut St., Burbank, Calif., or *circle number on card.*

113—Plastic Boxes

A descriptive bulletin (L-2889A) is offered presenting its complete line of transparent plastic boxes. Illustrated are 12 standard boxes with 35 different compartment arrangements. For more information write: Vlchek Tool Co., Dept. PE, 3001 E. 87th St., Cleveland 4, Ohio, or *circle number on card.*

114—Parts Feeder

Features of the Hoppermatic, which feeds, orients, and counts up to 200,000 items/hr., are reported in Brochure B-31. The standardized unit is adjustable for size, shape, and count of parts or items. For more information write: Count-O-Matic, Inc., Div. of U.S. Engineering Co., Dept. PE, 40-24 22nd St., Long Island City 1, N.Y., or *circle number on card.*

115—Strapping Methods, Tools

"Better Ways to Package, Unitize, and Ship" is a pocket-size, 40-page

NEW!

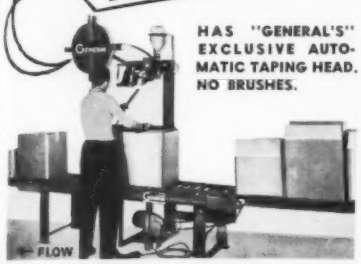
GENERAL'S

SEMI-AUTOMATIC TAPE SEALER

MODEL STS SEMI-AUTOMATIC TAPE SEALER

$865 FOB

"BUY IT YOURSELF" PRICE



AN AUTOMATIC SELF MEASURING TAPE DISPENSER with POWERED CONVEYOR to TAPE SEAL MIXED or FIXED SIZES

1. Doubles production per man hour. Cuts labor costs in half.
2. Accurate tape lengths insure savings of a $1.00 or more per 1000 boxes.
3. Uses large 24" diameter rolls—low cost and less downtime.
4. Proven mechanical simplification—no maintenance problem.
5. Pays for the machine in a few months.
6. Single strip tape sealing wins user satisfaction because it is so easy to open without injury to persons, contents or containers, especially with new "peelable" or "tear-string" tapes.

HOW IT WORKS

A touch of the foot switch automatically conveys a case to the work station. At the same time, the dispenser automatically delivers an exact length of moistened tape ready to hand seal the top flaps and extend over onto each end panel for the proper distance. Hitting the switch again repeats the cycle.

We offer this "BUY-IT-YOURSELF" economy price of $865. FOB if you mail or phone your order. You therefore save when we save selling costs. This offer may be for a limited time only. It costs to put off.

GENERAL CORRUGATED MACHINERY CO., INC.
Palisades Park 17, N.J. Windsor 4-0644
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Circle No. 256 on Card

pamphlet. Booklet No. 20 is a basic reference guide to Signode strapping methods and tools. For a copy write: Signode Steel Strapping Co., Dept. PE, 2600 N. Western Ave., Chicago 47, Ill., or *circle number on card.*

116—Temperature Controls

Transistor circuits and thermistor sensing elements are among the features of four new temperature controllers described in Bulletin MC-190. Specifications and sketches of various application arrangements are given. For more information write: Fenwal Inc., Dept. PE, 113 Pleasant St., Ashland, Mass., or *circle number on card.*

117—Polyethylene Coating

A Tenite polyethylene formulation recently developed for the extrusion-coating of paper is described in Materials Bulletin No. 2. Data on equipment, properties of coating, and coating conditions are presented. For more information write: Eastman Chemical Products, Inc., Plastics Div., Dept. PE, 260 Madison Ave., New York 16, N.Y., or *circle number on card.*

118—Packaging Tapes

Two leaflets are available on different types of pressure-sensitive tapes. Brand 5800-C is a waterproof plastic-coated cloth tape and 6325 is a high-tensile rope-stock tape. For more information write: Mystik Adhesive Products, Inc., Dept. PE, 2635 N. Kildare Ave., Chicago 39, Ill., or *circle number on card.*

119—Urethane Foam

A 24-page booklet, prepared as a pictorial progress report and fact file on industrial and commercial applications for urethane foams, has been published. For more information write: Mobay Chemical Co., Dept. PE, Penn Lincoln Pkwy. W., Pittsburgh 5, Pa., or *circle number on card.*

120—Liquid Filler

Bulletin LF-60 describes the Speedway automatic liquid filling machine that forms, fills, and seals pouch-type containers from roll stock of heat-sealable, flexible packaging materials—cellophane, foil, polyethylene, etc. For more information write: Speedway Machine & Tool Co., Inc., Dept. PE, 1802 N. Luett St., Indianapolis 22, Ind., or *circle number on card.*

121—Photoelectric Controls

A 24-page photoelectric catalog has been published to describe impulse-actuated controls, tubeless photoelectric controls, timing controls,

Cady Exact Micrometers Dead Weight 10/1000ths Spring Action & Portable

•

Test for QUALITY CONTROL

Papers/Films/Foils/Boards

Cadytest Instruments are designed for accuracy in determining or comparing thicknesses, basis weights, or bursting strength. They are available in stock models, or specials for specific tasks. Write for Brochure and Prices, showing entire line.

E. J. CADY & CO.
Manufacturers
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Cady 10/1000 Micrometer

Carbide-Tipped Anvils Available on All Mikes

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TURNS 60 to 180 bottles per minute 270° or 360° to empty foreign matter. Hold containers upside down for approximately 18" for air cleaning if so desired. Overall length of unit 8' 8" — 32" for the powered section and 6' for the twister. Easily changed twister permits use for various size containers.

MAIL THIS COUPON FOR FULL DETAILS

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P.O. Box 38-276

Please send Bulletin SPT-1 giving details on the Styl-O-Matic Powered Twister.

NAME_____

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Serving Industry 20th Year

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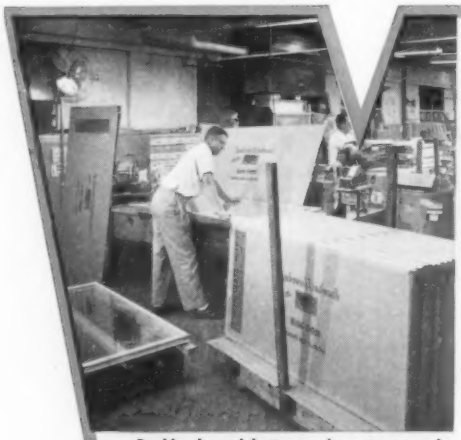
Waldorf knows Packaging

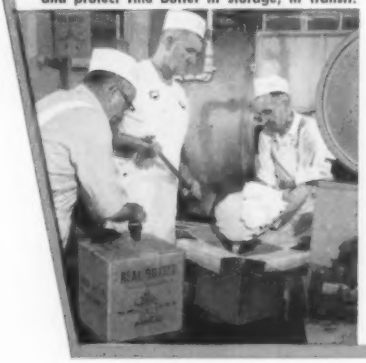
FOR THE PLANT



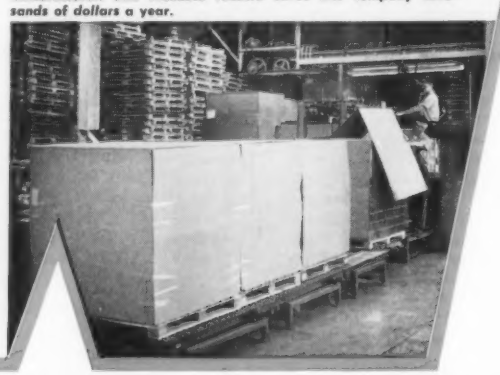
Freshly churned butter needs a strong, moisture proof box. Waldorf's Paul Bunyan #2 and Blue Ox #4 butter boxes won't sag, won't bend, won't burst . . . they safely stack and protect fine butter in storage, in transit.

Waldorf cartons (for automated and hand packing operations) protect the delicate glass and finely finished wood of Andersen windows (in many sizes and styles) from factory to job site.

These appliances are packed in Waldorf cartons that help prevent damage in storage and shipment. Waldorf also designs automated packaging lines that save appliance makers money.



Waldorf packaging experts, working in cooperation with Producers Container Co., devised a *reusable* carton for this can manufacturer. This reusable feature saves this company *thousands of dollars* a year.



Waldorf packaging experience saves you money. To automate your packaging, speed production, and reduce your packaging costs, let Waldorf survey your plant's packaging operation. This service is free and may save you thousands of dollars. Write or phone Waldorf today.

WALDORF PAPER PRODUCTS COMPANY
ST. PAUL 14, MINNESOTA • Midway 6-7321

and sensing heads. For more information write: Autotron, Inc., Dept. PE, Box 722PP, Danville, Ill., or *circle number on card.*

122—Foil Packages

In an illustrated folder, a variety of packages constructed from aluminum foil are shown along with reasons why the material was used in each example. For more information write: Anaconda Aluminum Co., Dept. PE, 1430 S. 13th St., Louisville 1, Ky., or *circle number on card.*

123—Packaging Machinery

A new file folder of eight information sheets is being offered on the various types of automatic packaging machinery manufactured by Wright. Several models of weighing systems and bagging equipment are described. For one of these folders write: Wright Machinery Co., Div. of Sperry Rand Corp., Dept. PE, Calvin & Holloway Sts., Durham, N.C., or *circle number on card.*

124—Beverage Canning

Recently published was a 28-page guidebook, "The Canning of Carbonated Beverages." Discussion includes structure of soft drink cans, along with filling and sealing methods and machines. For a copy of this booklet write: Continental Can Co., Dept. PE, 100 E. 42nd St., New York 17, N.Y., or *circle number on card.*

125—Gummed Paper

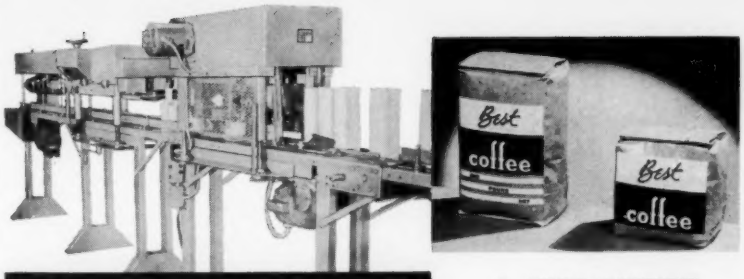
A new sample book contains 49 removable swatches of Really Flat gummed paper. General information on the various papers, basis weights, and a guide to proper gumming chart are included. To obtain this sample book write: Mid-States Gummed Paper Div., Minnesota Mining & Mfg. Co., Dept. PE, 6850 S. Harlem Ave., Bedford Park (Argo P.O.), Ill., or *circle number on card.*

126—Carding Clips

In a 72-page catalog, small clear plastic clips for holding lipstick containers, etc., onto cards are described. In addition to showing the 18 different types of clips, a section is devoted to profiles on several packaging and display extrusions from plastic. For this catalog write: Anchor Plastics Co., Inc., Dept. PE, 36-36 36th St., Long Island City 6, N.Y., or *circle number on card.*

127—Vacuum Forming Machine

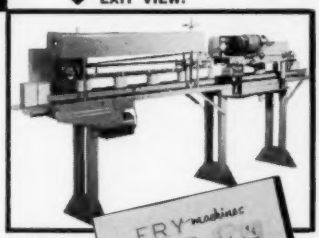
An illustrated leaflet provides information on an automatic, combination vacuum forming machine. Thermoplastic materials may be formed by drape, skin, or blister



IT'S IN THE BAG!

Fry Model CBG and Tommy Tucker

▲ SIMPLE ADJUSTMENT TO PROPER BAG HEIGHT.
▼ EXIT VIEW.



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Shipping and carrying strength...
Moisture protection...
Sift-proof closures... Neat appearance.
• **ASSURE YOUR PRODUCT:**
Safe, compact packaging...
Long shelf life... Fresh quality.

AUTOMATION SAVES SALARIES

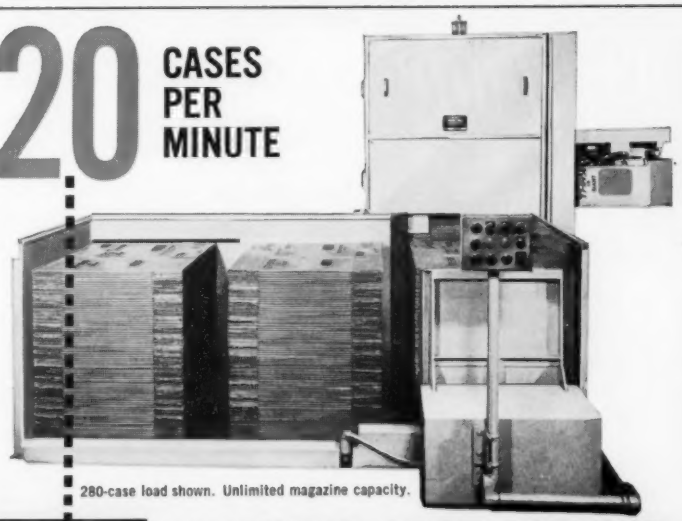
Use Fry Models CBG Bag Sealer Gluer, the Tommy Tucker and v-30 Settler for a continuous, automatic, straight-line operation from filler to shipping carton.

SEND TODAY FOR FREE INFORMATIVE BROCHURE

GEORGE H. FRY COMPANY

42 East Second Street, Mineola, N. Y. — Pioneer 6-6230
For more information circle No. 260 on Reader Service Card

20 CASES PER MINUTE



280-case load shown. Unlimited magazine capacity.

CARAL SHIPPING CASE FORMER

No operator needed! Fully automatic CARAL unit forms cases at speeds to 20 per minute. Smooth, jam-free operation adjusts to standard and special case sizes; adapts to all standard case packers with a minimum of modification. Easy, floor level loading. Cases formed from top of stack. Units now operating save owners dollars and down time. The *CARAL Case Former* will do the same for *you!*

Write today!
Details sent immediately!

CARAL PACKAGING MACHINERY INC.

579 Cleveland Avenue
Albany, California
Phone: LAndscape 4-7755

methods. For more information write: Pacific Plastic Machinery Inc., Dept. PE, 3443 S. Lawndale, Chicago 23, Ill., or *circle number on card.*

128—Protective Papers

A booklet has recently been published called, "Have Paper—Will Protect." Its 16 pages describe the protective and functional features of glassine and greaseproof papers and discuss a number of uses. For this booklet write: Rhinelander Paper Co., Dept. PE, Rhinelander, Wis., or *circle number on card.*

129—Metal, Ceramic Coating

A 4-page folder describes the properties and applications for Teflon coating of metal and ceramic tools and parts for protection against sticking and corrosion. For more information write: Cadillac Plastic & Chemical Co., Dept. PE, 15111 Second Ave., Detroit 3, Mich., or *circle number on card.*

130—Automatic Unloading

Descriptive material is offered on the Model 300 de-palletizer. Up to 40 to 50 cases/min. may be unloaded automatically. Illustrations and specifications are presented. For this information write: Alvey Conveyor Mfg. Co., Dept. PE, 9301 Olive Street Rd., St. Louis 24, Mo., or *circle number on card.*

131—Micrometers

A 6-page illustrated pamphlet describes a number of bench and hand micrometers and gauges. The instruments are designed to measure the thicknesses of foils, films, paper, tissue, etc. For more information write: Testing Machines, Inc., Dept. PE, 72 Jericho Turnpike, Mineola, N.Y., or *circle number on card.*

132—Plastics Guide

A revised edition has been published of a 12-page booklet describing the properties and typical end uses of its line of plastic materials such as styrene, polyethylene, and vinyl chloride. For a copy of this guide write: Monsanto Chemical Co., Plastics Div., Dept. PE, Monsanto Ave., Springfield 2, Mass., or *circle number on card.*

133—Packaging Machines

A 4-page brochure now available describes the complete line of packaging machinery offered by Stokes & Smith. Specifications and features are given for ten types of equipment. To obtain a copy write: FMC Packaging Machinery Div., Food Machinery & Chemical Corp., Stokes and Smith Plant, Dept. PE, 4994 Summerdale Ave., Philadelphia 24, Pa., or *circle number on card.*

134—Carton Stapler

Three case histories of installations using International's dual stapler equipment describe the product packaged, the problem, method previously used for closing filled cartons, and the results. For more information write: International Staple & Machine Co., Dept. PE, P.O. Box 270, Herrin, Ill., or *circle number on card.*

135—Conveyor Wear Strips

A 6-page illustrated bulletin is offered to describe the uses of self-lubricating wood wear strips for conveyor equipment. Typical installations are illustrated. For a copy of this literature write: Paramount Oilless Bearing Co. Inc., Dept. PE, 99 Hope Ave., Worcester, Mass., or *circle number on card.*

136—Case Loading Machines

Brochure No. 100-54 describes various Packomatic machines for automatically collecting and loading items into paperboard shipping cases and glue-sealing them. For more information write: J. L. Ferguson Co., Dept. PE, P.O. Box 1226, Joliet 1, Ill., or *circle number on card.*

(*Turn page*)

wrap-ade

HIGH SPEED UNIT PACKAGERS

FOR MOST FLAT PRODUCTS UNDER 1" THICK

• TABLETS • SOFT GOODS • FOOD PRODUCTS
• HARDWARE • FRAGILE COMPONENTS

TYPICAL FIN SEAL PACKAGES

If you are merchandising your product directly to the ultimate consumer, packaging for distributor sales, packaging for efficient and economical plant inventories, or packaging for necessary product isolation and protection, there is a Wrap-Ade Unit Packager suitable to your production and market requirements.

Send us a sample of your product today for our prompt quotation.

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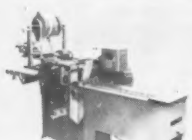

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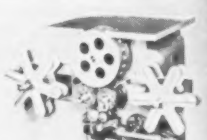

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SUCCESS STORY

Different Men—Products—Packaging Problems
Automatic Polyethylene Overwraps Bring Gains To All!

Envelopes, stationery, loose-leaf fillers, paper towels and napkins, paper plates, handkerchiefs, underwear, bread, rolls, cereal boxes. These and many more products today are automatically wrapped in polyethylene film—gaining protection, economy and sales appeal never before available in a wrapping material.

If you, too, need greater toughness, longer shelf life, more moisture resistance, lower material costs, check the advantages of automatic overwrapping with film made of BAKELITE Polyethylene. See your packaging supplier. And by all means get our *three* fact-filled booklets covering automatic packaging with polyethylene. Write Dept. HD-101, Union Carbide Plastics Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, N. Y. *In Canada:* Union Carbide Canada Limited, Toronto 12.

UNION CARBIDE

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Labeling Lines

HERE ARE 12 STEPS TO BETTER LABELING

. . . SIMPLY EXPLAINED IN OUR COMPLIMENTARY BOOKLET!

Readers of this column during the past year or so have undoubtedly found the series of "Labeling Lines" helpful in one respect or another.

We've prepared a booklet which provides, in composite form, twelve of the past subjects. It's yours for the asking, and it includes tips on:

1. FOIL LABELS AND THEIR APPLICATION . . . 2. FACTORS INFLUENCING SUCCESSFUL LABELING . . . 3. LABELING ADHESIVES . . . 4. DETERMINING THE SIZE AND SHAPE OF WRAP-AROUND NECK LABELS . . . 5. PLANT LAYOUT AND BETTER BOTTLING . . . 6. LABELING STANDARDS . . . 7. SUGGESTED METHODS FOR OBTAINING BOTTLE CONTOURS . . . 8. DETERMINING THE SIZE AND SHAPE OF LABELS FOR TAPERED TUMBLERS . . . 9. THE "CENTRALIZED ADHESIVE SYSTEM" FOR LABELING MACHINES . . . 10. DETERMINING THE SIZE AND SHAPE OF A FRONT AND BACK BODY LABEL . . . 11. LAYOUT PROBLEMS . . . 12. SPOTTING BARS

WRITE FOR BOOKLET — VOLUME 2

World's Largest Manufacturer of High-Speed Labeling Machinery

WORLD LABELERS

ECONOMIC MACHINERY COMPANY • Worcester 3, Mass. / Div. of Geo. J. Meyer Manufacturing Co.

137—Printing Units

Brochure K-10 illustrates and describes the re-designed and expanded line of Micro-Printers. Printing widths of attachments are ⅝ to 9 in. and 6 to 36 in. For more information write: Cozzone Marking Co., Inc., Dept. PE, 18 Nuttman St., Newark, N. J., or *circle number on card.*

138—Adhesives

Technical bulletins are available on Rubba-Peel, a labeling adhesive which eliminates need for pressure-sensitive labels; Rubbatex, an adhesive for polyethylene; and other varieties of adhesives. For more information write: Rubba Inc., Dept. PE, 1015 E. 173rd St., New York 60, N.Y., or *circle number on card.*

139—Blister Sealer

Available is a data sheet on the Clear-Pak Jr. plastic blister sealing machine. Designed for fast production of short-run items, it has a sealing area of up to 6x9 in. For more information write: Erdco Engineering Co., Dept. PE, Addison, Ill., or *circle number on card.*

140—Tear Tester

Information on calibrating weights for the Elmendorf tearing tester, and precision sample cutter for preparing samples is provided in Bulletin 211-ELM. For a copy write: Thwing-Albert Instrument Co., Dept. PE, Penn St. & Pulaski Ave., Philadelphia 44, Pa., or *circle number on card.*

141—Plastics Stabilizer

A compilation of information on the instability of polyethylene, polypropylene, and polyvinyl plastics in the presence of light and oxygen, and a new stabilizer for these, is the subject of a new brochure. To obtain this information write: Guardian Chemical Corp., Dept. PE, 38-15 30th St., Long Island City 1, N.Y., or *circle number on card.*

142—Electric Stapler

An illustrated leaflet has been issued to describe the new SE-77F electric stapler operated by a solenoid mechanism designed specifically for electric stapling. For more information write: The Staplex Co., Automatic Stapler Div., Dept. PE, 777 Fifth Ave., Brooklyn 32, N.Y., or *circle number on card.*

143—Case Packer

A brochure presents information and specifications on an automatic end-loading case packer which accumulates product, opens case, loads product, seals case, and delivers to conveyor. For more information

write: H. G. Weber Co., Inc., Dept. PE, Kiel, Wis., or *circle number on card.*

144—Filling, Closing Machines

A brochure describes 17 models of machines for filling a variety of products; closing and sealing equipment; carton and bag makers; and machines for check and net weighing. For more information write: Arenco Machine Co., Inc., Dept. PE, 25 W. 43rd St., New York 36, N.Y., or *circle number on card.*

145—Glass Coating

An 8-page booklet, "A Protective Coating For Returnable Bottles," describes the Nu-Glas process for production line coating. Purposes and types of coatings are also discussed. To obtain this information write: Thatcher Glass Mfg. Co., Dept. PE, 375 Park Ave., New York 22, N.Y., or *circle number on card.*

146—Rotary Vacuum Filler

A 16-page catalog, No. 070158, gives specifications for a rotary vacuum filling machine, available in 14 adaptations and six basic models. Equipment is designed to handle liquids and semi-liquids. For a copy of this catalog write: U.S. Bottlers Machinery Co., Dept. PE, 4009 N. Rockwell St., Chicago 18, Ill., or *circle number on card.*

147—Vertical Imprinter

Bulletin RIN-11 describes a new automatic imprinting attachment for marking flexible materials while they are moving in a vertical direction. To obtain a copy of this bulletin write: Adolph Gottscho, Inc., Dept. PE, 6 Evans Terminal, Hillside 5, N.J., or *circle number on card.*

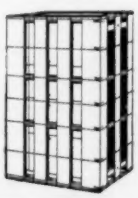
148—Tissues

Offered is a fact file with sample swatches of basic paper tissue types which are available for industrial, converting, and specialty applications. It outlines and illustrates the characteristics of each type. For more information write: The Crystal Tissue Co., Dept. PE Middletown, Ohio, or *circle number on card.*

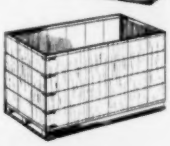
149—Vibration Tests

A reference manual that records actual vibration test results of over 50 varied products has been published. Weights of the packaged items tested range from a few ounces to 2,000 lb. Information given in chart form includes the product tested, its weight unpackaged, total weight of product and package, type of container, dimensions of containers, the vibration test method used, and the results. For a copy of this survey write: Gaynes Engineering Co.,

"SUPERSTRONG" joins the
St. Regis Family



There's another branch on the spreading St. Regis family tree . . . the 105-year-old Rathborne, Hair & Ridgway Box Co. But it's the same fine source for Superstrong Wirebound Boxes and Crates, Pallets and Pallet Boxes — first choice in this field for rugged shipping containers.



CALL CAnal 6-0973 or write Dept. 901

WIREBOUND BOX DIVISION

St.Regis PAPER COMPANY

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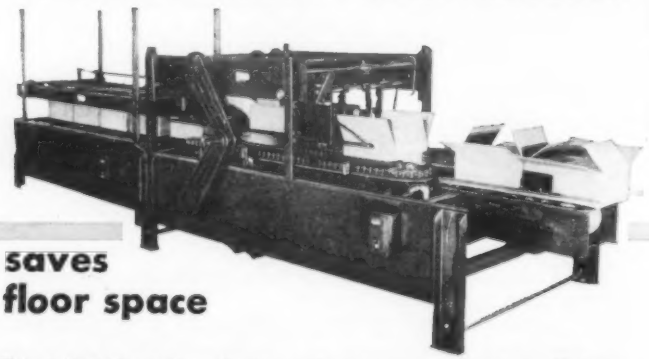
PACK IT SMALLER WITH SHOKSORB

A few sheets of permanently cushion-molded Shoksorb protective packing paper can replace many cubic inches of bulk dunnage—cut carton size, packing and handling costs, shipping losses. Write for Shoksorb-bound picture-catalog of uses and types.

KIEFFER PAPER MILLS, INC.
BROWNSTOWN, INDIANA

For more information circle No. 266 on Reader Service Card

A-B-C Short Case Sealer



saves floor space

This A-B-C Short Case Sealer really increases packaging efficiency. Glues, folds and seals either or both top and bottom flaps in one operation—automatically. Speeds up to 30 cases a minute. Finest welded construction. Ball bearing construction reduces maintenance. Guaranteed not to get out of "time".

WHATEVER YOUR PACKAGING PROBLEM, there's a proved A-B-C machine to solve it—case sealers, unloaders and unscramblers, side sealers and hand gluers.

WRITE TODAY FOR DETAILS—
FLOOR PLANS & SPECS

A-B-C PACKAGING MACHINE CORP.
TARPON SPRINGS, FLORIDA

Dept. PE, 1644 W. Fulton St., Chicago 12, Ill., or *circle number on card.*

150—Straight Line Filler

An illustrated data sheet on the Model SL-55 straight line filling machine is available. Unit handles semi-liquid and semi-solid products and five types are available with speed ranges up to 300/min. For more information write: The Filler Machine Co., Dept. PE, 10 Penn Ave., Rockledge, Philadelphia 11, Pa., or or *circle number on card.*

151—Taping Machine

Descriptive material is offered on a new line of multi-purpose tape applying and combining machines. They may also be used to index and register tape. For more information write: Lened Mfg. Co., Inc., Dept. PE, 489 Henry St., Elizabeth, N. J., *circle number on card.*

152—Treatment For Printing

A brochure is available to introduce the Ionomatic machine which electronically treats molded polyethylene surfaces to facilitate adhesion of printing inks. For more information write: International Eastern Co., Dept. PE, 801 Sixth Ave., New York 1, N. Y., or *circle number on card.*

153—Case Sealer

Offered is a leaflet on the new model S.T.S. semiautomatic case sealer. The machine is designed to fill the gap between table model tape dispensers and fully automatic case sealers and tapers. For more information write: General Corrugated Machinery Co., Inc., Dept. PE, Palisades Park 17, N. J., or *circle number on card.*

154—Air Bag Packer

Information is available on a new air-pressure filling hopper accessory for the Coddington Air-Pac valve bag packer. The purpose of the new unit is to widen the scope of materials that can be packed by air. For more information write: E. D. Coddington Mfg. Co., Dept. PE, 5048 N. 37th St., Milwaukee 9, Wis., or *circle number on card.*

155—Flocked Film

Sample swatches can be obtained of a newly developed rayon flocking for Mylar polyester film. According to the manufacturer, the material has a number of uses wherever sales appeal, such as color and texture, must be combined with high tensile, tear, and impact strength. To receive samples write: Cellusuede Products, Inc., Dept. PE, 500 N. Madison St., Rockford, Ill., or *circle number on card.* (*End*)

(Advertisement)

A message to

Package research and development departments
Engineering departments
Technical & research libraries
Everyone concerned with what is being written in the world of packages

We recently were appointed American agents for Packaging Abstracts, published by the British research association PATRA—The Printing, Packaging & Allied Trades Research Association. This service gives you in a single, handy periodical (5½x8½ in., averaging 75 pages a month, plus the annual index), brief summaries of packaging articles that have appeared in some 200 packaging magazines plus over 150 magazines devoted to printing and allied subjects, and numerous patents, books, pamphlets, and technical data provided by makers of machinery and materials. An average issue carries about 400 abstracts based on literature received from all parts of the world.

Examine It 10 Days Free

Mail the coupon to us and we will mail you a sample copy of the current issue. You may return it in 10 days and you owe us nothing. If you keep it, we will mail you subsequent issues and the annual index as they come off the press, and bill you $42.00 for a one-year subscription.

Free Examination Form

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Please send me a copy of *Packaging Abstracts* for 10 days' free examination. I understand that I may return the copy in 10 days and I owe you nothing. If I do not return it, you may bill me $42.00 for a year's subscription.

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Title .....

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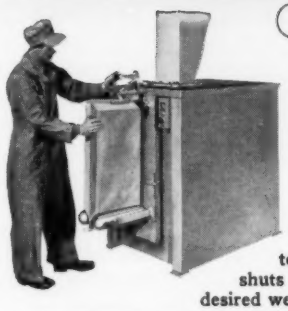
NEW... AIRPAC METHOD
Cuts Bagging Costs!



CODDINGTON

AIRPAC
Bag Packer

FILLS AND WEIGHS

Revolutionary new compressed air method—no moving parts—packs powdery materials in valve bags . . . shuts off automatically when desired weight is reached.

Small spout on economical AIRPAC fits popular size valve in bags . . . keeps bags clean . . . eliminates costly tieing or bag closing equipment.

--------FILL OUT AND MAIL TODAY--------

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Please send me facts on the new AIRPAC Valve Bag Packer.

MY NAME.....

COMPANY.....

ADDRESS.....

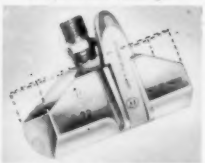
CITY.....ZONE.....STATE.....

Circle No. 268 on Card

STOP GLUE WASTE
CUT MAINTENANCE
SAVE UP TO 83%

WITH FF GLUE GUNS

Stripe-action roller gun



Roller gun, plunger actuated

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The University of Wisconsin to hold engineering institute

The University of Wisconsin is holding a two-day engineering institute on "practical package development—step-by-step." It will take place in the Wisconsin Center Building, Madison, Wis., Feb. 9-10.

Designed to be of help to those responsible for the packaging function in smaller companies—particularly one-man packaging departments—the program has four principal phases, according to its sponsors: (1) knowledge of the product, (2) knowledge of packaging materials, methods and equipment, (3) structural and functional package design, (4) selling the package to management.

The university is getting speakers and panel members primarily from companies making electronic items, mechanical equipment, and pharmaceutical products, according to Richard A. McCormick, institute coordinator, college of engineering. Noting that the university holds some sixty of these institutes a year, Mr. McCormick said this particular one is designed to furnish the packaging man a tool or working method to take home with him to use on his job. Mr. McCormick also pointed out that the university draws its attendance for these institutes from all over the country and not merely from Wisconsin and surrounding states.

Panel participants indicated at press time include: George Reed, packaging engineer, AC Spark Plug Div., General Motors Corp., Milwaukee; John Kissinger, packaging engineer, J. I. Case Co., Racine, Wis.; George Ryan, director of packaging, Abbott Laboratories, North Chicago; Jack Karst, parts research supervisor, Massey-Harris-Ferguson, Inc., Racine, Wis.; Arnie Kunz, American Paper Co., Milwaukee; Alfred Lilienfeld, president, Protective Packaging Co., Chicago; Arthur Schaefer, customer service manager, New Jersey Machine Corp., Hoboken, N.J.; William Vedder, packaging engineer, Louis Allis Co., Milwaukee; Richard Pfohl, materials handling engineer, International Harvester Co., Melrose Park, Ill.; Charles Lincoln, package engineer, Bell & Howell Co., Chicago.

(See Calendar, Page 6, for details.)

Offers machinery scrapbook binders

When executives of Emhart Manufacturing Co.'s Portland Div. read Edward W. Love's suggestion about having a series of scrapbooks on packaging machinery, it struck them as a worthwhile idea. In his article,* Mr. Love recommended twelve scrapbooks under various headings of machinery.

Emhart has condensed Mr. Love's headings into eight categories, as follows:

1. Feeding, cleaning equipment.
2. Fillers and cappers.
3. Labeling equipment.
4. Case sealing, taping and marking.
5. Cartoning equipment.
6. Wrapping equipment.
7. Case packing equipment.
8. Conveying, material handling.

*Love, Edward W., "Can you choose the right equipment?" PACKAGE ENGINEERING, 5 (1960), No. 10 (Oct.), p. 84.

Make Your Own Scrapbooks

These eight titles appear on the covers of a set of eight vinyl (black or navy), three-ring binders (1½-in. rings) with stiff covers. Identifying copy appears on the spine and on the front cover of each. Having prepared these for its own use, Emhart has now decided to offer a limited number of these sets of eight binders each, at a price of $9.50 per set, prepaid. Readers wanting to buy a set of Emhart's binders in order to carry out the "scrapbook" ideas suggested by Mr. Love, may contact E. King Graves, Portland Div., Emhart Manufacturing Co., Portland, Conn.

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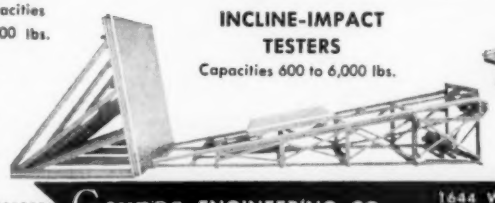

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Rating supplier performance

(Continued from Page 31)

operate in evaluating suppliers on this characteristic, with a maximum of ten points being assigned.

Perhaps ideas volunteered by the supplier will be for new packages, or changes in present packages, in order to reduce the component costs or increase production efficiency. Constructive suggestions and ideas adopted from a supplier would receive the maximum with other contributions being weighed and an appropriate value assigned.

5. SHIPMENT IDENTIFICATION

Fifth, how well does a supplier identify its shipments? Are the cases marked with the item's stock number, the quantity, and other necessary identifications? Shipment marking becomes an important matter in rapid identification of incoming packaging materials. The receiving department, by rapid identification, is able to save time and needless effort in speeding the material to the proper area.

Helps The Inspector

Identification of incoming material also helps the inspector to identify rapidly a shipment and obtain the specifications pertaining to that material. This speeds his inspection and aids the delivery to both the storage area and eventually to the packaging department.

Specifications will usually state what is to be printed on incoming shipping containers. How well, or adequately, does the supplier mark its cases, etc.? This point was important enough to be ranked fairly high according to the survey results and is judged to be worth about 10 points in the final evaluation. This should be evaluated by the purchasing and receiving departments, which are in close contact with all receipts of materials.

6. SALESMAN

The last factor to be considered is the supplier's representative, the salesman. The salesman, for good or bad, reflects the personality of his company. The buyer will often form opinions about this or that company strictly on his experiences with its salesman.

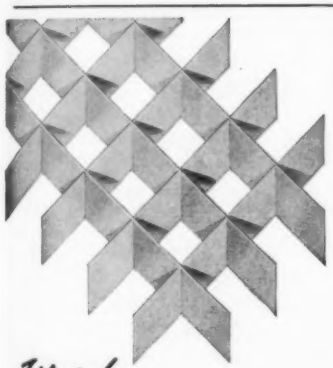
Typical questions a purchasing department may ask in awarding 10 evaluation points based on a company's salesman are:

1. How well does he know his products?
2. Are his calls too frequent or infrequent?
3. Is he available or within reach when needed?
4. How well does he time his visits so as not to waste the buyer's time?
5. Does he have an effective follow-up on orders which are in production?

There are certainly other factors to be considered in any evaluation or rating system. They depend on the individual company and adherence to the policies which it regards as the more important.

Who Gains

The entire program outlined here, and the awarding of points, depends on a conscientious effort



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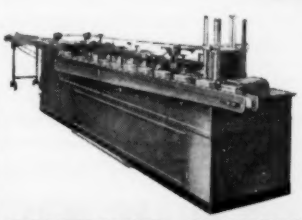

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by those responsible for maintaining the system. As the number of shipments from various vendors increases and the above data are recorded, supplier histories develop.

The purchasing department may refer to a table (see Fig. 3) for an up-to-date record of each supplier. Comparing suppliers of like materials by this system will point out those suppliers who, through their efforts, *deserve* to receive the next order.

Vendors Make Suggestions

Upon first doing business with a new supplier, the user should instruct the supplier, verbally or in a letter, about the inspection procedures which are followed, and the other factors which the purchasing and other departments will examine in future business transactions. The user should encourage a supplier to ask questions and make suggestions so that both the user and the supplier may benefit.

Advantages of this system are:

1. A buyer can point out the specific faults in a vendor's performance by reference to the evaluation or rating records. The buyer must use sound judgment in rating its particular characteristics because he will be reviewing the facts directly with the supplier involved.
2. To provide flexibility, the point value of any given characteristic for a particular supplier could be changed to place the emphasis elsewhere.

It is to the best interest of a user to consider the comparative data of a supplier's past quality and performance records. Companies could also arrange to have their suppliers evaluate them. This evaluation should cover, as closely as possible, the same characteristics with which they (the suppliers) were evaluated. An evaluation such as this may point out weak spots in the system and aid a company in strengthening its vendee-vendor relationship.

Vendors of packaging materials to the pharmaceutical industry, as well as others, should welcome an evaluation plan such as outlined here. The suppliers would know that they are being judged on the same basis as their competitors and that fairness has been designed into the plan. A competitive spirit between suppliers, created by such a rating plan, may result in additional benefits to the user company through receipt of improved quality, better service, and reduced prices. *(End)*

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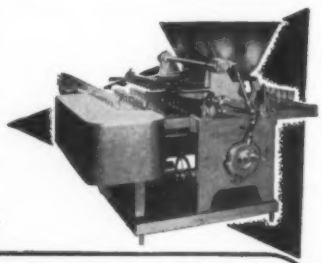

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What we think

Wisconsin short course geared to job needs

Solving the packaging problems of today and tomorrow demands that we keep our feet on the ground while we shoot for the moon. All this talk about the technical challenges of the 60's is becoming less of a guidepost and more of a siren song. Far too many industry leaders and educators alike listen to it too attentively.

Unfortunately, it is now quite fashionable in many packaging circles to speak loftily of nothing but undergraduate and graduate *degree* programs when sounding off on packaging education. But the tom-tom beaters, who are correct in suggesting the long range course, are quite wrong in thumbing their noses at extension work, evening programs and short courses.

Let's do something for the man on the job

Heart of the problem is that many leading minds in packaging are so busy planning for the future that they forget about the needs of today. They overlook the one-man packaging teams, the unsung heroes holding the line in striving to do a job today, selling packaging to their managements as they go.

At least one great school is not overlooking their needs. The University of Wisconsin, as a part of its program of "engineering institutes" (it holds about 60 two- to five-day programs a year for specialists in different fields) is sponsoring a two-day meeting next month in Madison on "practical package development—step by step" to help the man now on the job who needs a workable tool to solve his problems.

We commend the university for its willingness to help the man who is not in school but already on the job. We are sure all this isn't hurting the school's academic standing and prestige, of which it has plenty. Rather, it is a recognition that there is more to education than providing an atmosphere of unrestrained scholarship for resident students on the campus.

These comments are biased. Anyone who has ever stood in the stands of Wisconsin's Camp Randall Stadium and watched the Badger alumni reverently swing everything from corduroy hunting caps to gray homburgs during the deeply moving strains of *Varsity* learns to appreciate that the university means business when it says the boundaries of the state are the boundaries of the campus.

We *are* prejudiced—prejudiced in favor of a school that uses its resources to serve the practical, workday side of a technical specialty such as packaging. We hope its packaging program next month is a great success; its sponsors have planned it to meet a practical need.

We understand that the two-day program is built around a four-point approach to structural and functional package design: (1) knowledge of the product being packaged; (2) knowledge of packaging materials and methods; (3) applying these in structural and functional design; and (4) selling the new package to management.

Further, the planning committee has recruited speakers and discussion leaders from companies producing electronic items, mechanical equipment, and pharmaceuticals. This promises a balanced program.

There won't be elaborate reviews of mechanization marvels on packaging lines. The fellow who is used to picking up his intracompany phone to get engineering and research help will probably be disappointed. The program is not for him.

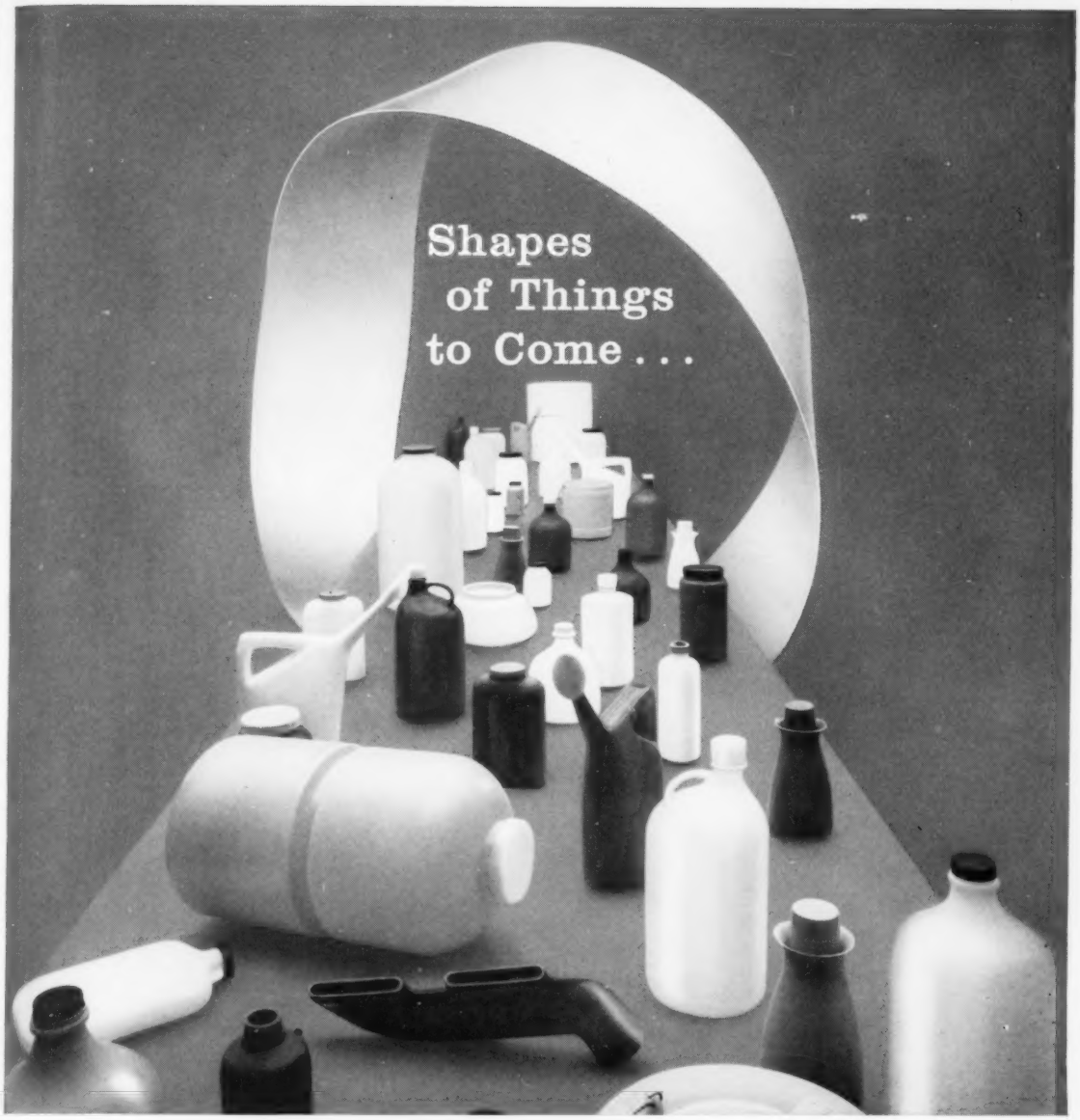
Offered: a tool for one-man packaging teams

But the man who is alone, who single-handedly is trying to develop good packages and sell packaging to his management will find the program useful. The sessions are geared to give the solo packaging engineer or other lone functionary a tool, something practical he can take home and use.

We hope he comes. (Incidentally, we hear people from all around the country attend these institutes.) No matter how far away from school he has gotten, no matter whether he ever set foot on a college campus or not, he will feel at home. He will be in the brisk, stimulating environment of educators who realize engineering principles are of little value until somebody somewhere can make them work.

Bruce Hollingsworth

Editor



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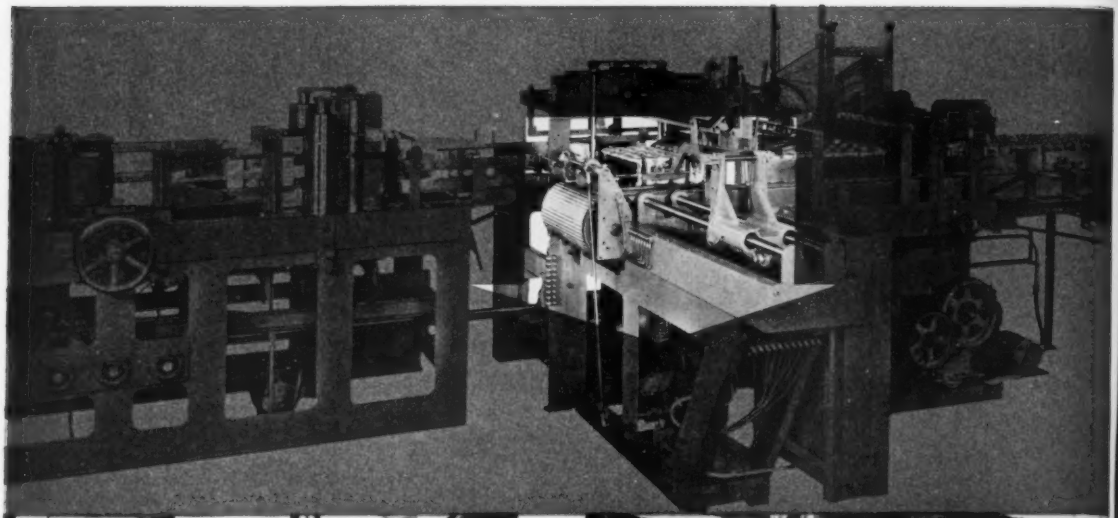

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